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Canada. Hydrographic and Map Service

1941



CANADA

1941

Supplement No. 5 to the 1929 Edition

OF THE

# SAINT LAWRENCE PILOT

(CANADIAN EDITION)

BELOW QUEBEC

(Corrected to October 15, 1941)

*Issued by the*

HYDROGRAPHIC AND MAP SERVICE,  
SURVEYS AND ENGINEERING BRANCH

DEPARTMENT OF MINES AND RESOURCES  
CANADA

OTTAWA  
EDMOND CLOUTIER  
PRINTER TO THE KING'S MOST EXCELLENT MAJESTY  
1942





This Supplement has been compiled from information received in the Hydrographic Service since the publication, in 1929, of the fifth edition of the St. Lawrence Pilot, below Quebec. Supplement No. 4, 1939, is hereby cancelled and all information affecting the St. Lawrence Pilot, below Quebec, including Notice to Mariners No. 76 of 1941, has been embodied in this Supplement.

Obtainable from the Hydrographic and Map Service upon payment of fifty cents.

Pilots, masters or others interested are earnestly requested to furnish information regarding newly discovered dangers, changes in aids to navigation, the existence of new shoals or channels, errors in publications or other information that, it is considered, would be useful for the correction of Nautical Charts and Hydrographic Publications affecting Canadian waters addressed to the

SURVEYOR GENERAL AND CHIEF, HYDROGRAPHIC SERVICE,  
DEPARTMENT OF MINES AND RESOURCES,  
CONFEDERATION BUILDING,  
OTTAWA, CANADA





**SUPPLEMENT No. 5 TO THE 1929 EDITION OF THE ST.  
LAWRENCE RIVER PILOT (Canadian Edition) BELOW  
QUEBEC.**

(Corrected to October 15, 1941)

New matter and alterations follow the order of the paging of the "St. Lawrence River Pilot, below Quebec." The pages referred to in this supplement are those of the same volume, except when specifically mentioned otherwise in the text.

**All bearings given are true and are from seaward; unless otherwise stated, where given in degrees they are reckoned clockwise from 0° (North) to 359°.**

**Page iii.**—Change name of Department from "Marine and Fisheries" to "Mines and Resources."

**Page iv.**—For "N. by E.  $\frac{1}{8}$  N." read "N. by E.  $\frac{1}{8}$  E."

**Page xviii.**—Insert the following new paragraphs:

**Amendment to International Rules of the Road in force for the River St. Lawrence from Lock No. 1, Lachine Canal, Montreal, to Father Point.**

The following rules with respect to day and night signals to be displayed by dredging plants, shall apply in the River St. Lawrence between Lock No. 1, Lachine Canal, Montreal, and Father Point wharf, P.Q.

*Daytime means from sunrise to sunset, and nighttime means from sunset to sunrise.*

**Elevator or bucket ladder dredges, and hydraulic dredges,** during daytime will show, at the forward and after end of the vessel on the side on which the traffic is to pass, two black balls or shapes not less than 2 feet in diameter, suspended one over the other not less than 6 feet apart and at least 10 feet outside the hull. During nighttime, red lights similarly placed will be shown.

**Dipper dredges,** during daytime will show, at the forward and after end of the dredge, on the side on which the traffic is to pass, two black balls or shapes, not less than 2 feet in diameter, suspended one over the other, not less than 6 feet apart and at a sufficient distance from the side of the dredge and sufficiently high, to make sure that under no circumstances, with the dipper arm and boom athwartship, can the visibility of these shapes be interfered with. During nighttime red lights similarly placed will be shown.

At nighttime, pipelines attached to **hydraulic dredges**, either floating or supported by trestles, will display one row of white lights clear of all obstructions, one light for each section of pipe. The discharge end of the pipeline shall show a red light. All lights to be visible around the horizon.

**Collision Regulations—Caution.**—It has been brought to the attention of the Department of Transport that Great Lakes vessels leaving the lower exit of the Lachine Canal to enter the harbour of Montreal, on passage down river, and when under way in the main shipping channel, have been exhibiting lights and making sound signals similar to those prescribed in the Rules of the Road for the Great Lakes, whereas the lights to be exhibited and the sound signals to be made are prescribed by the International Rules of the Road. Such irregularities should cease. The consequences of exhibiting unauthorized lights and making incorrect sound signals at any time are obvious.

Particular reference is made to the use of the additional light (range light) visible all around the horizon as required by Article 2 (e) of the Rules of the Road for the Great Lakes, adopted by Order in Council of the 4th February, 1916, and amendments to such Rules. This additional light visible all around the horizon shall not be exhibited east of the lower exit of the Lachine Canal or the Victoria bridge at Montreal. A properly screened light may be exhibited, as provided for by Article 2 (e) of the International Rules of the Road, adopted by Order in Council of the 9th February, 1897, and amendments to such Rules.

The co-operation of all concerned is earnestly requested to avoid dangers to navigation attendant upon the non-observance of the said International Rules of the Road in force on the St. Lawrence River from Montreal to the sea.

At nighttime, the usual lights required by the International Collision Regulations for a vessel at anchor, shall also be shown.

*Delete* paragraph headed "Radiotelegraph".

**Pages xix to xxvi.**—*Delete* information on these pages and substitute:

**Radiotelegraph Stations.**—Coast radio stations, which are open for public correspondence, are located at Saint John, Lurcher lightship, Yarmouth, Sambro lightship, Camperdown, Halifax, Canso, Louisburg, North Sydney, Cape Race, Grindstone Island, Belle Isle, Point Amour, Ellis Bay, Fame Point, Clarke City, Father Point, Quebec, Montreal.

The following stations transmit special information:—

**Weather forecasts.**—Montreal, Quebec, Father Point, Fame Point, Belle Isle, Gulf of St. Lawrence ship investigating ice conditions, Cape Race, Louisburg, Canso, Sambro lightship, Camperdown, Yarmouth, Saint John, C.G.S. *Arras*.



**Time signals.**—Camperdown.

**Radio Direction-finding Stations.**—Saint John, Yarmouth, Camperdown, Canso, St. Paul Island, Cape Race, Belle Isle.

**CAUTION.**—Interference with wireless direction-finding equipment.—It is pointed out to masters of ships fitted with direction-finding equipment, particularly those using unshielded D.F. loops, that serious error may result in bearings taken if, after calibration, receiving aerials are erected in proximity to the D.F. equipment.

**Radio beacons** are maintained at Lurcher lightship, Seal Island, Western Head, Sable Island, Sambro lightship, Halifax East lightship, Low (Flat) Point, East Point, St. Paul Island, Cape Ray, Cape Race, Cape Bauld, Cape Whittle, Heath Point, Natashkwan Point, Perroquet Island, West Point, Pointe des Monts.

For details of stations see "Radio Aids to Navigation" published by the Department of Transport.

**Page xxviii.**—In the list of "Marine Signal Service Stations, Atlantic Division" delete "Chebucto Head, North Sydney, Flat Point, St. Paul Island;" insert "Camperdown."

Delete "Eastern Division" and "Central Division" and *substitute*:

**Signal stations.**—Longue Pointe, Cape Salmon, Father Point, Matane, Pointe des Monts, Fame Point, Cap des Rosiers, Point Escuminac, Point Amour, Belle Isle, West Point, Heath Point, Cape Ray, Cape Race.

**Reporting stations.**—Montreal, Cap St. Michel, Sorel, Three Rivers, Pointe Citrouille, Grondines, St. Nicholas, Quebec, St. Jean, Ile aux Grues, Cape Salmon, Bersimis, Riviere a la Martre, Cape Magdalen, Point Maquereau.

**Pages xxviii and xxix.**—Delete the paragraph beginning "Any vessel showing" to that beginning "There is a private telephone" and *substitute*:

**Marine Signal Service Stations.**—The Government of Canada has in operation a very complete system for the purpose of maintaining communication between ship and shore; these stations extend from Saint John, N.B., Cape Race, Newfoundland, and Belle Isle up the Gulf and River St. Lawrence, and through the Great Lakes to Port Arthur and Fort William, Ontario. This system includes a network of Radiotelegraph Stations; a chain of signal stations on the river, whereby the progress of a vessel may be continuously reported from Cap des Rosiers to Montreal.

Any vessel showing its official number to any of the signal stations in the Gulf or River St. Lawrence is reported immediately, and all reports are promptly posted on the bulletin board at the Canadian National Telegraph Company's office, Quebec, and on that at the

Board of Trade, Montreal. These reports are repeated to the pilot station at Father Point, so that pilots may be aware of the locality of inward bound vessels.

Vessels bound to and from the minor ports of the River and Gulf of St. Lawrence are particularly requested to show their official numbers whenever possible where signal stations are situated.

Dispatches to and from vessels are duly delivered as addressed. They are charged for at the ordinary telegraph rates between stations, but no charge is made for signalling between coast stations and vessels at sea; dispatches may, by special request, be delivered in cipher, otherwise they are transmitted in ordinary language.

Vessels may obtain information as to winds, weather, and ice at any visual signal station on request.

Signal stations are equipped to receive and send messages by flag signals, the International code being used.

All stations report movements of vessels and daily weather conditions either to Montreal or Quebec, and daily bulletins covering the same are issued at Montreal and Quebec.

All stations between Montreal and Quebec show weather conditions at points above and below station, both by day and night (*see* Storm signals, page xxx).

The Signal Service offices at Montreal and Quebec are open day and night for the purpose of providing the public with information regarding shipping matters.

All stations report either by radiotelegraph, telephone or telegraph.

*Insert new paragraphs:*

**Signals, searchlights.**—Any vessel approaching a defended port in Canada when searchlights are being worked, and finding that they interfere with her safe navigation, may make use of the following signals, either singly, or combined:—

- (a) By flashing lamp, *four short flashes* followed by *one long flash*.
- (b) By whistle, siren, or fog-horn, *four short blasts*, followed by *one long blast*.

Whenever possible, both flashing lamp signals, and sound signal should be used.

On these signals being made, the searchlights will be worked so as to cause the least inconvenience, being either doused, raised or their direction altered.

The signals should not be used without real necessity, as unless the vessel is actually in the rays of the searchlight it is impossible to know which searchlight is affected.

**Note.**—The signals are designed to assist mariners, and do not render the Government liable in any way.



**AIRCRAFT DISTRESS SIGNALS.**—The following are to be employed only when an aircraft is threatened by grave and imminent danger and requires immediate assistance.

**(1) By Radiotelegraphy.**—The international distress signal SOS, sent three times in the Morse code, thus:—

.....

followed by the word DE sent once, the call sign of the aircraft in distress sent three times, its position (preferably as a true bearing and distance in nautical miles from a known geographical point or, alternatively, in terms of latitude and longitude), the nature of the distress, and the kind of assistance desired.

Distress signals by radiotelegraphy, addressed to ships or coast stations, should be transmitted on type A2 waves with a frequency of 500 kc/s (600 metres).

It cannot be assumed as a general rule that an aircraft will have sufficient time to precede the distress call by the auto-alarm signal. In consequence the distress call would be made first, followed when time permits by the auto-alarm signal and a repetition of the distress call. (Note: The automatic alarm signal, which is for the purpose of attracting the attention of ships equipped with the auto-alarm, consists of a series of twelve dashes in one minute, each dash being of four seconds' duration, the duration of the interval between successive dashes being one second. It is important to adhere strictly to this spacing, in order to actuate the alarm.)

**(2) By Radiotelephony.**—The international distress call "May-day" (corresponding to the French pronunciation of "m'aider") spoken three times, thus:—

MAYDAY

MAYDAY

MAYDAY

followed by the call sign of the aircraft in distress sent three times, and by details of its position and other information as in paragraph 1 above.

Distress signals by radiotelephony addressed to ships or coast stations, should be transmitted with a frequency of 500 kc/s (600 metres).

**(3) By visual signalling.**—(a) **Flashing.**—The international signal SOS flashed from a lamp in the Morse code as in paragraph 1 above.

(b) **Pyrotechnics.**—A signal consisting of a succession of red pyrotechnical lights, fired at short intervals, or a red flare from which, at intervals of about three seconds, a red light is ejected into the air.

**Note.**—Aircraft may be expected to continue to use a white flare, from which, at intervals of about three seconds, a white light is ejected into the air, until the issue of the red signal to all aircraft is completed.

(c) **Flag signalling.**—(i) The international code flag signal of distress, consisting of the two-flag group NC.

(ii) A Distant Signal, consisting of a square flag having either above or below it a ball, or anything resembling a ball.

(4) **By sound signalling.**—The international signal SOS sent with any sound apparatus, or a continuous sounding with any sound apparatus.

**II. URGENCY SIGNALS.**—(1) The following are to be employed only when an aircraft or other station has a very urgent message to transmit (as a general rule to a specific station or ship), concerning its safety or the safety of any person on board or of any ship or aircraft or person within range of assistance.

(a) **By radiotelegraphy.**—The aircraft should prefix the call with the group XXX sent three times, in the Morse code, the letters of each group, and the successive groups being clearly separated, thus:—

— . . . — — . . . — — . . . — — . . . — — . . . — — . . . —  
— . . . — . . . — . . . — . . . — . . . — . . . — . . . — . . . —

(b) **By visual signalling.**—The aircraft should fly low round the ship, fire a succession of green pyrotechnical lights, or make a succession of green flashes with daylight signalling apparatus, and then—

- (i) pass the message, in accordance with the procedure laid down in the International Code of Signals, or
- (ii) alight alongside the ship, or
- (iii) if wishing to call the attention of the ship to an aircraft, vessel, or person in distress, proceed in the requisite direction.

**Notes.**—(A) The ship, when green pyrotechnical lights or green flashes are sighted, will instantly prepare a boat for lowering.

(B) The ship will acknowledge such signals as follows:—

- (i) If a daylight signalling apparatus is carried (by day or night).—

By flashing the answering sign, i.e. a succession of T's in the Morse code.

- (ii) If no daylight signalling apparatus is carried—

(a) By day:—

By hoisting the answering pennant close up.

(b) By night:—

By waving a white light in a suitable position as far away as possible from other sources of light on the ship.

**N.B.**—It should be clearly understood that the visual urgency signal described in Section II, paragraph 1 (b) above, is only to be used in the circumstances indicated: aircraft having visual messages

of a non-urgent nature to communicate should fly low round the ship in order to attract attention and then pass the message. Aircraft should not fly round ships at a low altitude unless they have a message to pass or some specific duty to perform.

(2) The group or expression PAN is used as the urgency signal, as follows, when an aircraft wishes to give notice of difficulties which compel the aircraft to land without requiring immediate assistance.

This signal must whenever possible be followed by a message giving further information.

(a) **By radiotelegraphy.**—The aircraft should prefix the call with the group PAN sent three times in the Morse code, the letters of each group, and the successive groups, being clearly separated (so that the letters AN may not be transformed into one letter P), thus:—

· — — ·   · — — ·   · — — ·   · — — ·   · — — ·   · — — ·

(b) **By radiotelephony.**—The aircraft should prefix the call with the word PANNE (pronounced “Pan”) spoken three times, thus—

PAN                      PAN                      PAN

**Note.**—When, owing to the rapidity of the manœuvres to be accomplished, an aircraft is unable to transmit the intended message, the signal PAN not followed by a message indicates that the aircraft using it is in difficulties, is about to land or alight but does not require immediate assistance.

(c) **By visual signalling.**—By day:—A succession of white pyrotechnical lights.

By night:—A succession of white pyrotechnical lights or a succession of short and intermittent flashes with the navigation lights.

**III. SAFETY SIGNALS.**—The following are to be employed only when an aircraft wishes to send a message concerning the safety of navigation or a message containing important information relative to meteorological warnings.

(1) **By radiotelegraphy.**—The safety signal consists of three repetitions of the group T T T sent in the Morse code with the letters of each group and the successive groups clearly separated from each other, thus:—

— — —                      — — —                      — — —

This signal is followed by the word DE sent once and by the call sign of the station which emits it, sent in the Morse code three times.

(2) **By radiotelephony.**—The safety signal consists of the French word “Sécurité” (pronounced “say-cure-e-tay”) spoken three times, thus;—

Sécurité                      Sécurité                      Sécurité

followed by the call sign of the aircraft transmitting the signal.



**Quarantine.**—The following extracts from the Canadian Quarantine Regulations established by Order in Council dated 31st December, 1928, by authority of Chapter 168 of the Revised Statutes of Canada, 1927, "An Act respecting Quarantine," are for the guidance of vessels arriving in Canadian waters:—

**Administration.**—The Quarantine Service of Canada is controlled by the Minister of Pensions and National Health and is administered under him by the Department of Pensions and National Health, referred to in these Regulations as "Department."

Masters of all vessels visiting any ports in Canada are required to have on board a copy of the Quarantine Regulations referred to above, and it is the duty of every pilot boarding a ship to satisfy himself that such is the case.

The only organized Quarantine Station within the area described in this book is at Quebec City, in the River St. Lawrence, with Sorel, Three Rivers, Port Alfred, Chicoutimi and Montreal harbours as substations.

Each organized Quarantine Station of Canada is in charge of a medical Quarantine Officer.

A substation is a port of final destination to which vessels may go after procuring pratique at an organized Quarantine Station, and where, following discharge of cargo, they can with greater facility be fumigated or disinfected, and where other functions may, when required, be performed, as directed by the Department. Each substation is in charge of the chief or senior immigration medical officer, except when otherwise provided by the Department.

In addition to the above, every maritime port in Canada is designated an unorganized Quarantine Station. At each unorganized Quarantine Station the local customs officer is, *ex officio*, the Quarantine Officer for the purpose of these Regulations.

**Instructions re Quarantine Procedure for Vessels Approaching Canadian Ports via St. Lawrence River.**—Vessels may report by wireless to "Quarantine Quebec" between the hours of nine a.m. and five p.m. of the day preceding their expected arrival at Quebec, submitting the following information:—

- (1) Name and nationality of vessel.
- (2) Ports called at during voyage.
- (3) Nature of cargo.
- (4) Number of crew.
- (5) Number of passengers.
- (6) Port of destination.
- (7) Condition of health of all on board, with details of any sickness or death occurring during the voyage; and

in the event of the Quarantine Officer requiring further information, such further information shall be supplied by the vessel.

Section 11 of the Quarantine Regulations regarding passenger vessels will still stand.

Vessels with wireless destined to ports on the St. Lawrence other than Quebec and Montreal, shall report as above, between the hours of nine a.m. and five p.m. of the day preceding their expected arrival at Father Point. These vessels must also submit special information, as follows, regarding their fumigation status:—

- (1) Place and date of last fumigation or exemption.
- (2) Ports called at since.

The Quarantine Officer at Quebec will reply by wireless, giving permission to proceed to port of destination, or giving instructions as to the place and time of quarantine inspection.

Any change in the port of destination of the vessel subsequent to receiving permission to proceed, shall be notified by the vessel to the Quarantine Officer, and a new permission obtained. Failure so to notify shall cancel the permission already obtained.

All vessels proceeding to or past Quebec, and not having received permission, as above, to proceed, or instructions as to time and place of quarantine inspection, will be boarded in the stream at Quebec by the Quarantine Officer.

Vessels desiring **DUPLICATE PRATIQUE** for United States ports must be boarded by the Quarantine Officer. This should preferably be done at Quebec. If the Captain wishes to be boarded at Montreal, he must submit the information as above to the Quarantine Officer at Quebec by wireless and obey the instructions received in reply. The vessel shall not proceed past Quebec unless permission has been obtained as outlined.

Vessels granted permission to proceed to port of destination may dock and make customs entry as soon as desired after arrival.

**1. Quarantinable diseases.**—For the purposes of these Regulations, quarantinable diseases are:—

- (a) Cholera (Asiatic).
- (b) Plague.
- (c) Smallpox.
- (d) Typhus fever.
- (e) Yellow fever.

**2. Other contagious or infectious diseases.**—Persons sick with other infectious or contagious diseases such as chickenpox, diphtheria, enteric fever, erysipelas, influenza, measles, scarlet fever, etc., shall be taken care of at Quarantine Stations only when proper facilities do not exist for their treatment at the port where such cases are to be landed.

**3. Leprosy.**—It is the duty of every Quarantine Officer to satisfy himself by the presence or absence of obvious signs, whether or not

leprosy exists among the passengers or crew. In the event of this disease being found, the person affected shall not be allowed to enter Canada, but shall be detained in quarantine at the vessel's expense until taken aboard by the same vessel when outward bound, unless satisfactory reasons be given for further delay. In the event of the vessel failing to take back the said leper, he or she shall be deported by the Department at the expense of the owners of such vessel.

**7. Vessels from outside of Canada.**—Every vessel arriving from a port outside of Canada, otherwise than coastwise vessels (enumerated in Section 13), bound for a port of Canada having an organized Quarantine Station, shall be inspected by the Quarantine Officer at the place duly appointed for such inspection, and shall not be allowed to make customs entry at any port in Canada until it has received pratique.

**8. Vessels from infected ports.**—(a) If a vessel from an infected foreign port bound for a port in Canada which is an unorganized Quarantine Station, has first to pass an organized Quarantine Station, it is required to obtain pratique at such station before proceeding to its destination.

**Definition of infected port or area.**—(b) Within the meaning of these Regulations an infected port or area is a port or area where any one of the quarantinable diseases designated in Section 1 is epidemic, i.e., has occurred outside the immediate surroundings of the first case or cases, thereby indicating that the spread of the disease has not been limited to the place where it began.

(c) The Department, by notification to its Quarantine Officers, may declare any port or area to be infected which is considered to come within the category described herein or concerning which official information comes to it from any Government signatory to the International Sanitary Convention. In addition, any Quarantine Officer may declare a port or area to be "infected" subject to the decision of the Department, which, from information on the bill of health, he suspects comes within the category herein described. Any port or area declared to be "infected" shall so remain until declared "free from infection" by the proper health authority of such port.

**9. Breach of regulations by vessels unlawful.**—It shall be unlawful for a vessel from a port outside of Canada to enter any port in Canada except in accordance with these Regulations. Any such vessel which shall enter or attempt to enter in violation thereof shall be liable to the penalty hereinafter provided, and may, moreover, be required to return to the nearest Quarantine Station and obtain the necessary pratique.

**10. Port bills of health.**—The Department may from time to time, designate any place outside of Canada as a place from which every vessel clearing for any port in Canada shall be required to



obtain a bill of health endorsed by the official health authority for the place, setting forth the health conditions at such place, including a detailed statement covering the quarantinable diseases, and showing the number of cases of each such disease occurring during the fourteen days immediately preceding the day of sailing.

**11. Ships' masters to notify Quarantine Officers by wireless.—**

The master of each passenger vessel shall notify the Quarantine Officer by wireless at least twelve hours previous to arrival at quarantine of the condition of health of all on board, stating disease, if any, also his expected time of arrival. Should disease break out subsequent to this notification, and before the vessel reaches the Quarantine Station, a further notification shall be sent covering the situation.

**12. Quarantine Officer to be given ease of access to vessel.—**

Every vessel arriving at a Quarantine Station not having a port convenient to the level of the quarantine boat, shall have an accommodation ladder, or in lieu thereof a suitable gangway, rigged for the use of the Quarantine Officer. Moreover, the vessel to be cleared shall be required to give the boarding officer and his boat a proper shelter or lee in stormy weather while he is boarding and leaving. The Quarantine Officer has authority to detain a vessel until these conditions are fulfilled.

**13. Exemption of coastwise vessels.—**(a) Vessels enumerated below, except when coming from an infected port, and provided they are free from disease, shall be regarded as coastwise vessels, and as such exempted from quarantine inspection:—

Vessels operating *exclusively* between Newfoundland ports or the French ports of St. Pierre, Miquelon and ports of Canada.

Vessels operating *exclusively* between ports of the United States and ports of Canada.

**Coastwise vessels passing through Panama Canal.—**(b) Vessels referred to in the preceding paragraphs of this Section, which pass through the Panama Canal, do not thereby lose their coastwise status, provided they have not touched at any foreign port other than way-ports on the Panama Canal en route, and have not taken on or discharged passengers or cargo at these Panama ports.

**Vessels may lose coastwise status.—**(c) Vessels qualifying as coastwise under this Section, if they at any time go foreign, shall thereby lose their coastwise status and be subject to quarantine inspection on their next arrival at any Canadian port.

**14. Coastwise after clearance.—**After having been given pratique by a Quarantine Officer, and having made Customs entry at any port in Canada, a vessel, if she proceed to any other port in Canada without in the meantime going foreign, shall be regarded as a coastwise vessel under Section 8 of these Regulations, and so not subject

to further quarantine inspection at such subsequent Canadian port, provided that no disease has developed among the personnel on board subsequent to obtaining pratique, in which case the vessel shall stop at a Quarantine Station for further inspection and pratique, if there be such station between first port of entry and final port.

**15. H.M. ships of war.**—His Majesty's ships of war and transports having medical officers on board, arriving at any port in Canada in a healthy condition are exempted from quarantine inspection and detention. In the event, however, of the presence on board any such vessel of any of the quarantinable diseases designated in Section 1, these Regulations shall apply as in the case of other vessels arriving from outside of Canada.

**17. Quarantine signals at organized stations.**—Subject to the exceptions set out in Schedules 13, 14 and 15, every vessel bound for any port in Canada having an organized Quarantine Station shall, on approaching such station display a yellow flag at the fore by day, and by night a red light at the fore (or where it may be seen easily) as a distinctive quarantine signal. Such flag or light shall not be removed until such vessel has been visited and released by the Quarantine Officer. (For quarantine signals at unorganized ports, see Section 58.)

**25. Vessels arriving by the St. Lawrence.**—(a) In the case of vessels arriving by the St. Lawrence River, clearance certificate shall be from the Quarantine Officer at Quebec (or at any other port designated by the Department), provided there is no quarantinable disease on board.

**Fumigation of vessels for destruction of rats.**—In accordance with Article 28 of the International Sanitary Convention of June 21, 1926, deratization can be carried out and Deratization or Deratization Exemption Certificates can be issued to vessels in the area covered by this volume, either at the ports of Montreal, Quebec, Three Rivers, Sorel, Chicoutimi and Port Alfred, P.Q., or at the port of North Sydney, N.S.

**Lights and signals at swing spans of railway bridges in Canada.**—Extract from regulations dated July 2, 1914:—

Every swing or drawbridge over a navigable water shall be marked at night by a *white* light on each side of the navigable channel, by a *white* light on each end of the swing protection, and by a lantern surmounting the swing span showing a *red* light up and down the channel when the passage is closed, and *green* when the swing is open.

In the case of a bascule bridge of any description it will suffice that a light showing *green* up or down a channel when the leaf or leaves are lifted, and *red* when the bridge is closed, be shown from

one side or the other of the opening, or preferably, carried on the end of the leaf. The *white* lights above described for a swing bridge also to be maintained.

The signal to be given by a steamer to have a swing opened shall be three long blasts of the whistle.

**Page xxix.**—In the first sentence of the paragraph at the bottom of the page for "Crane Island" read "Bridge station"; delete the last sentence of the same paragraph.

*Insert the following paragraph:*

The daily depths of water at high and low tide in the Beaujeu and St. Thomas Channels are posted in the Pilotage Office, Quebec.

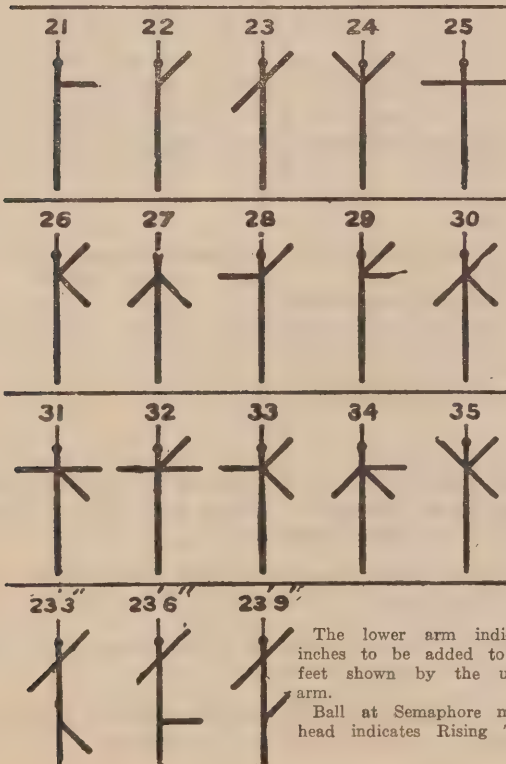
*Insert the following:*

# CODE OF SIGNALS FOR SEMAPHORE AT CRANE ISLAND

SHOWING DEPTH OF WATER IN FEET

IN CHANNEL AT BEAUJEU AND ST. THOMAS BANKS

LOOKING UP STREAM



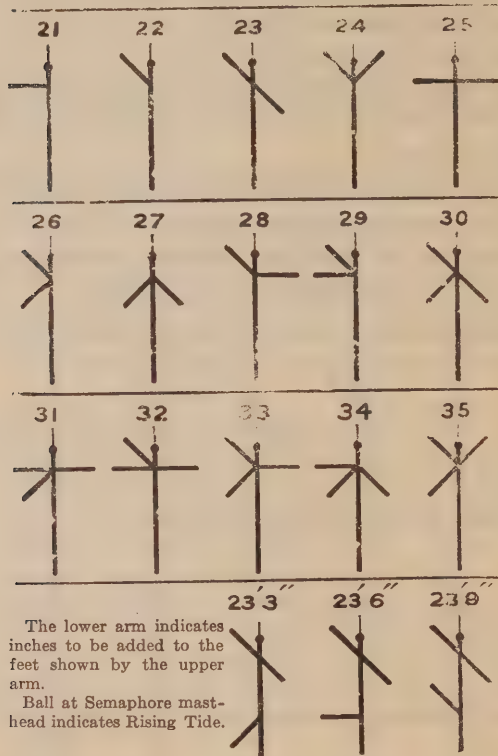


# CODE OF SIGNALS FOR SEMAPHORE AT CRANE ISLAND

SHOWING DEPTH OF WATER IN FEET

IN CHANNEL AT BEAUJEU AND ST. THOMAS BANKS

LOOKING DOWN STREAM



**Page xxx.**—Delete from the list of "Canadian Meteorological Service Storm Signal Stations" "Gaspé and Moisie River," add to the list "Godbout and Baie Comeau."

**Page xxxi.**—Change name of Department from "Marine and Fisheries" to "Transport."

**Page xxxiv.**—Change name of Department from "Marine and Fisheries" to "Mines and Resources."

**Pages xxxiv and xxxv.**—Delete paragraphs headed "Currents" and "Tidal streams" and "Tides" and substitute:

**Currents and tidal streams.**—To some extent the currents and tidal streams in the Gulf and Estuary of the St. Lawrence are indicated as to direction by arrows on the charts and sometimes rates are also shown. The currents of the Gaspé Coast and in the estuary along the south side to Red Islet and White Islet and from there in the North Channel to Orleans Island have been investigated by the Tidal and Current Division of the Hydrographic Service. Reports have been issued, which are supplied free on request, except the Atlas of Tidal Current charts for hourly stages of the tide between Orleans Island and Father Point, for which there is a charge of \$1. Summaries of the information contained in these, along with information from earlier sources in localities not covered by them, is given under the headings of the different localities within this book.

The currents of the northeast corner of the Gulf of St. Lawrence, Mingan Strait, and the north shore of the estuary to the mouth of the Saguenay River have not been systematically investigated; nor in the south channel, from Rivière du Loup to Quebec. Tables for the time of slack water at the St. Roch Traverse in the latter reach, however, are published in the tide tables. The outward currents along the Gaspé Coast, the southeasterly cross currents in the neighbourhood of Cap Chat, the onshore sets of the current in rising tide periods from Cap Chat to Matane, the particularly strong and variable currents of the Red Islet-White Island region and in Coudres Passage, are those that demand particular caution on the part of the navigator. The descriptions and data given in this book with regard to these currents are not intended to take the place of the special reports, especially in the case of the estuary above Father Point, for which hourly conditions are portrayed in the Atlas of Tidal Current charts.

**Tides.**—At the entrance to the St. Lawrence Estuary as found at Cap Chat the tide has a spring range of  $10\frac{1}{2}$  to  $12\frac{1}{2}$  feet but because of the narrowing and shoaling the range increases as the estuary and river are ascended until in the region below Orleans Island a mean spring tide range of 19 feet is attained. At Quebec the spring range is 18 feet but at 40 miles above Quebec the tide is, to a large extent, cut off by the Richelieu Rapids and it almost disappears at Three Rivers, a little below Lake St. Peter. At the same time a retardation is caused in the progress of the tidal wave, so that high water occurs at Quebec 4h. 23m. later than at Father Point.

Tide tables are issued annually by the Hydrographic Service of Canada, Department of Mines and Resources; reference should be made to them and to the reports on Currents and Tidal Streams for complete information.

**Page xxxvi.**—Delete body of paragraph under "Tide Tables" and substitute:

Tide Tables with complete tables for the time of slack water in the St. Roch Traverse are given in the "Tide Tables for the Atlantic Coast of Canada." For other localities differences are given relatively to the tide at Quebec and Father Point for the time of slack water.

**Page xxxvii.**—The price of charts published by the Hydrographic Service of Canada is 50 cents.

Add to the "List of Canadian charts" the following:

- 219 Father Point to Quebec.
- 220 Baie Comeau.
- P1001 Outardes River. Ontario Paper Company wharf.
- P1003 Matane Harbour.
- P1028 Fox River Bay.
- P1221 Approaches to Laval Bay.

#### P. Process Prints

Delete from the list:

- 205 South Channel.

Delete "Chart 202, Ha Ha Bay, Saguenay River" and substitute "Chart 202, Saguenay River, Baie Trinite to St. Fulgence including Ha Ha Bay."

Delete "Chart 203, The approaches to Saguenay River" and substitute "Chart 203, Saguenay River, Tadoussac to Baie Trinite. Approaches to Saguenay River".

**Page 2.**—At top of page insert:

**St. Georges de Malbaie—Leading lights.**—About half a mile southward of Red Head, *fixed red* lights are shown from the two masts each with a small white shed at base. The front light, 39 feet in elevation, is situated on top of cliff, about 110 feet back from the water's edge. The back light, 54 feet in elevation, is situated 250 feet, 246° from the front light.

In the heading of the first paragraph, after the word "Light" insert "**and fog-horn.**" At the end of the same paragraph insert: "A fog-horn on the wharf, operated by hand, will answer signals from vessels."

At Bois Brule is a wharf 165 feet long and 22 feet wide with a depth of 6 feet at the outer end.

Delete body of paragraph headed "Anse à Brillant.—Light" and substitute:

The entrance to Anse à Brillant is protected by two jetties 40 feet apart. The channel between the jetties has been dredged to a depth of 3 feet and leads to a boat basin 240 feet by 125 feet, which was dredged to a depth of 2 to 4 feet. The inner end of the east pier is used as a wharf.



On the outer end of the east pier a *fixed red* light is shown, at an elevation of 21 feet from a mast with a white shed at the base.

In paragraph headed "Douglastown" *delete* reference to the wharf and *substitute* "Douglastown wharf is 644 feet long and extends to a depth of 6 feet."

**Examination Anchorage.**—An examination anchorage has been established within the area bounded by the following lines: On the north by a line drawn  $90^{\circ}$  from Cape Haldimand, Latitude  $48^{\circ} 48' N.$ , on the east by Longitude  $64^{\circ} 20' W.$ , and on the south and west by the Coast of the Province of Quebec.

**Prohibited Area.**—Ships are forbidden to anchor in the Gaspé Approaches between Longitude  $64^{\circ} 20' W.$  and  $64^{\circ} 25' W.$  (excepting in the above-mentioned Examination Anchorage).

**Page 3.**—After paragraph headed "Seal Rock" *insert*:

**Buoy.**—A red conical buoy is moored on the edge of the five-fathom contour, about 700 feet southward of Seal Rock.

**Wharf.**—At D'Aiguillon is a Government wharf 200 feet long with a depth of 8 feet at the outer end.

After paragraph headed "Storm signal" *insert*:

**Wharves.**—About 400 feet westward of the church at Cap aux Os is a small landing pier for schooners; it dries at low water. On the south side of the Peninsula is a wharf 190 feet long with a face 120 feet in length and with a depth of from 13 to  $21\frac{1}{2}$  feet along the face.

**Page 4.**—*Insert* the following paragraph below paragraph headed "Fog-signal";

**Wharves.**—In the southeast corner of the harbour is a Government wharf with a "T" end 150 feet long; along the face is a depth of 20 to 30 feet. About three-quarters of a mile east of Lourdes Point is another Government wharf nearly 2 cables long and 75 feet wide with a depth of 40 feet at the outer end. In the berth on the north side, 600 feet in length, is a depth of 28 to 42 feet and on the south side, 450 feet long, is a depth of 30 to 40 feet. There are two railway tracks on the wharf.

The mills that were formerly located about one mile above Jacques Cartier Point have been torn down.

After paragraph headed "Southwest Arm" *insert* the following paragraph:

**Bascule bridge.**—A bascule bridge with a lift 90 feet wide crosses the entrance of the Southwest Arm from McConnell Point to the north shore, connecting the villages of Gaspé and Gaspé Harbour.

**Page 5.**—The lighthouse on Paddy Shoal has been destroyed and the shoal is now marked by a red light-buoy, showing a *flashing red* light, moored south of the site of the wrecked pier. The wreck of the pier is reported to be submerged about 3 feet at low water.

The light on Janvrin Shoal has been permanently discontinued.

The storm signal station at Gaspé has been discontinued.

In paragraph headed "Communication" for "Atlantic, Quebec and Western Railway" read "Canadian National Railways."

**Page 7.**—To paragraph headed "Caution" add:

To hug the coast is incurring an unnecessary risk; the 100-fathom line is well defined and forms a good limit. Mariners are reminded that, when the position is not constantly fixed by bearings and angles, it is necessary to make full allowance for the strong current which invariably sets eastward, increasing during the ebb and decreasing with the flood, and which tends to set a vessel on to the coast when approaching Matane.

In paragraph headed "Current" delete "(See page xxxiv)" and insert:—

**The Gaspé Current.**—The Gaspé Current originates in the vicinity of Cap Chat as the result of the convergence of the Pointe des Monts cross current with the predominantly outward movement from the estuary along the southern shore. It runs constantly south-easterly or outward along the coast and into the Gulf of St. Lawrence, usually occupying a belt lying between two and fourteen miles off shore, as found from Cape Magdalen to Cape Gaspé. Its greatest strength is at an offing of 4 or 5 miles, where it attains a rate of 2 knots at the spring, and about  $1\frac{1}{2}$  knots at the neaps. At an offing of 10 miles it is much weaker and beyond 14 miles any current there may be is no longer continuously outward.

Within one or two miles of the shore, along the greater part of this stretch of coast, a tidal stream is found, which runs westward on the flood; while on the ebb, the direction is with the main current. This inshore flood is little felt except at the springs, and it does not exceed one knot at any time.

It is possible under exceptional conditions for the Gaspé Current to lie farther offshore, near the middle of the passage between the Gaspé Coast and Anticosti. When the current is in this position, the area between it and the Gaspé Coast may be occupied by weak and fluctuating currents, or even by a reverse current setting inwards. This position near the middle of the passage may therefore be regarded as a displacement of the current, or an alternative route which it may take, but the change is of rare occurrence.

The Gaspé Current is constant in the sense of always being in the one direction which is outward from the St. Lawrence towards the gulf. It is subject to wide variations in strength, however, hence the difficulty of an accurate estimate of its retardation to a vessel

steaming against it in thick weather. It is evident that to change the ship's course to the westward prematurely, with insufficient allowance, will bring her toward the shore.

The leading variation which is well marked at all times is a regular fluctuation with the tide, the current being stronger on the ebb and weaker on the flood which reacts against it. The strength of the current is distinctly greater at the springs and less at the neaps and the change with the moon's distance from perigee to apogee is quite evident.

There is also a change in the strength of the current, more irregular in character, which appears to be due to its becoming wider and weaker at times and again narrower and stronger. This may result in some measure from winds that are obliquely against the current, or that bear onshore across its direction. For although it is clear that the direct effect of the wind, with or against this current, has surprisingly little influence upon it, yet the power of the wind to displace a current in position is much greater proportionately.

**Sailing Directions.—Caution.**—Steamers, inward bound, are tempted to take a route close to the land to avoid the Gaspé Current and obtain help from any upward flood along shore. To do this during thick weather is dangerous. Because of the downward current and the gradual rounding of the coast, a vessel altering her course before having run its distance over the ground will close in on the shore. This fact has been the cause of many groundings, farther up, near Matane. Apart from the risk of keeping within a mile or two of the land, this inshore flood is in most cases only strong enough to be of service about the time of spring tides, and then only for the flood period. After the six hours of flood, in which some 60 miles along the coast are made, these steamers must then bear out to a greater offing; as for the next six hours the ebb, in unison with the main outward current, is strongest along shore.

*Inward course.*—The captains with longest experience therefore maintain that better time can be made by keeping out to an offing of 8 or 10 miles near the outer edge of the Gaspé Current where it is usually weak enough to be inappreciable. Record time has been made at this offing, and one captain claims that at an offing of 12 miles he only lost a quarter of an hour from current as far in as Cap Chat.

The best inward route from Bird Rocks is to make the Gaspé Coast at an offing of 14 miles at Cap des Rosiers and to maintain an offing of 10 miles from Fame Point to Cap Chat.

The investigations of this current also show that Atlantic steamers, inward bound via Belle Isle, southern route, will gain time by making a straight course from Bagot Point, Anticosti, to a point 10 miles off Cape Magdalen, and thence maintaining the same offing till within the mouth of the estuary opposite Pointe des Monts.



*Outward course.*—A distinct advantage will be gained by all vessels by keeping in the stretch of the Gaspe Current, at an offing of 4 to 5 miles, from Cap Chat outward. Even steamers on the southern route to Belle Isle Strait may obtain an advantage by following the rounding of the coast at this offing as far as Fame Point at least, before turning off towards Anticosti. The distance that the coast should thus be followed will be greater if it is ebb tide at the time; as they may then obtain as much as 3 knots in their favour which will more than compensate for the slight extra distance by the chart. All coasting steamers, and Atlantic steamers on the route south of Newfoundland, will gain by keeping this offing till they leave the Gaspe Coast.

**Page 8.**—After paragraph headed “Marine Signal Station” *insert* the following paragraph:—

**Government wharf.**—About 200 feet southward of the light-house is a wharf, originally 600 feet in length, with a depth of 15 feet at its outer end at low water, but the outer end having been damaged by a storm, a length of 225 feet is now submerged, and the wharf should be approached with caution.

*Delete* the body of the paragraph headed “Storm Signal Station” and *substitute*:

**Storm signals** are shown from the station in the fog-alarm building at Cap des Rosiers.

At the end of paragraph headed “Griffon Cove” *insert* the following sentence and paragraph:—

Training piers have been constructed at the mouth of Griffon River for the protection of small boats when entering and the channel as far as the highway bridge has been dredged.

**Government wharf.**—One-third of a mile southeastward of the mouth of Griffon River is a Government wharf 670 feet long with a depth of 16 feet at the outer end and the same depth for 300 feet on the west side and 200 feet on the east side.

In paragraph headed “Leading lights” (near bottom of page) for “237°” *read* “238°”.

**Pages 8 and 9.**—For “Griffin” *read* “Griffon.”

**Page 9.**—In paragraph headed “Government wharf” for “850” *read* “1,040”; for “22” *read* “25”; *add* to the paragraph “At the mouth of the river a Government breakwater extends 450 feet easterly and thence 252 feet northerly with a depth of 7 feet on the outside of the outer part and 4 to 5 feet on the inside”.

In paragraph headed “Buoy” for “inside this buoy” *read* “in on the west side of this buoy”.

After paragraph headed "Little Fox River" *insert*:

**Wharves.**—A wharf on the south side of Little Fox River has a depth of 7 feet at the outer end. Another wharf on the north side of the river has a depth of about 6 feet alongside.

At Petit Cap, a breakwater, 410 feet long, affords some shelter to boats drawing not over 11 feet. There is a depth of 18 feet at the outer end at low water; the inner end dries. This structure has no approach from shore.

To paragraph headed "Serpent Point" *add* "There is a Government wharf 200 feet long extending to a depth of  $2\frac{1}{2}$  feet and a Government breakwater 563 feet long with a depth of 17 feet at the outer end and  $7\frac{1}{2}$  feet on both sides for a distance of 180 feet".

After paragraph headed "Serpent Point" *insert*:

**Government wharf.**—About a cable eastward of the church is a wharf, 560 feet in length, with a depth of 18 feet at its outer end at low water.

**Page 10.**—In paragraph headed "Buoy" (second from top of page) *delete* "Note.—This buoy is occasionally washed away."

At Pointe Jaune,  $1\frac{1}{2}$  miles northwest of Serpent Point, is a Government wharf 420 feet long extending to a depth of 8 feet.

At Anse-au-Vallon is a Government wharf, 229 feet in length, with a depth of 3 feet at the outer end.

*Delete* reference to Grand Etang leading lights as they have been discontinued.

**Page 11.**—The wharf at Petite Vallée has been extended to 633 feet in length with a depth of  $24\frac{1}{2}$  feet at the outer end. In the berths at the outer end 100 feet in length there is a depth of 24 feet on the east and 15 feet on the west side.

The leading lights at Petite Vallée have been moved and are now located on the Government wharf. The back light is 302 feet  $168^\circ$  from the front one.

**Page 14.**—*Delete* paragraph headed "Marine Signal Station".

**Page 15.**—In the paragraph headed "Mont-Louis Bay" *delete* the sentence beginning "It is about 300 feet long" and *substitute*:

It is 380 feet long with 21 feet of water at the outer end and 19 feet in the berth on the south side 225 feet from the outer end.

Mont-Louis Seigneurie, Limited, wharf, situated 400 feet south of the Government wharf, is 800 feet long and has 15 feet of water at the outer end and  $11\frac{1}{4}$  feet in the berth on the south side 125 feet from the end.

Mont-Louis is an important village and all steamers plying between Montreal, Quebec and the Gaspé Coast call here. The Mont-Louis Seigneurie, Limited, export about 20,000 cords of pulpwood

annually. There are three sawmills here and a salmon canning factory. A conspicuous cross is erected on the eastern point of the bay.

In the paragraph headed "Tides" for "at full and change" read "mean interval"; for "27<sup>m</sup>" read "07<sup>m</sup>".

**Page 16.**—Delete paragraph headed "Light" at Rivière à Claude Bay and insert:

**Leading lights.**—*Fixed red lights* are shown from two masts each with a small white shed at base. The front light, 28 feet in elevation, is situated on the shore at the bottom of the bay. The back light, 46 feet in elevation, is situated 224 feet, 167° 30' from the front light. Their alignment leads to the anchorage.

Delete paragraph headed "Marsoui River" and the following headed "Light" and substitute:

Marsoui River is a small stream 5 miles westward of Ruisseau Arbour. From the east point of the mouth a Government wharf extends 460 feet northwesterly and thence 116 feet northerly to a depth of 9 feet. Along the outer part there is a depth of 6 to 9 feet.

**Light.**—A *fixed red* light is shown, at an elevation of 30 feet, from a pole with a white shed at its base, located 100 feet southeastward of the inner end of the wharf.

To paragraph headed "A wharf" add "The wharf is 366 feet long and extends to a depth of 5 feet".

After paragraph headed "Martin River" insert:

**Light.**—At Ste. Marthe de Gaspe, at the mouth of the Marten River, a *fixed red* light is shown at an elevation of 28 feet from a white pole with a white shed at its base.

Delete paragraph headed "Marine Signal Station".

**Page 18.**—After paragraph beginning "The village of Latourelle" insert:

**Government wharf.**—At Latourelle there is a Government wharf about 600 feet long with 5 feet of water at its outer end.

After paragraph headed "Ste. Anne Bay" insert:

St. Joachim de Tourelle is 6 miles east of Ste. Anne des Monts; the population, of about 1,000, are engaged in farming, lumbering, and fishing. L'Anse des Quinze Collets is located in the bay of Petite Tourelle, 2 miles east of St. Joachim. This is one of the most important fishing harbours on this coast and the annual catch amounts to about \$100,000. The harbour of Anse de l'Eglise is located about midway of the village of St. Joachim. Cote Neuve is a small fishing harbour halfway between Ruisseau Castor and Cap au Renard, 13 miles east of Ste. Anne des Monts.



In paragraph headed "Government wharf" *delete* "At 230 feet shoreward from the outer end, on both sides of the wharf, there is a depth of 3 fathoms at low water." and *substitute* "In the berth on the eastern side there is a depth of 20½ feet for a length of 250 feet and 18 feet for 300 feet; the berth on the western side, 230 feet long, has a depth of 18 feet."

**Page 19.**—After first paragraph *insert*:

**Fog-horn.**—A hand fog-horn answers signals from vessels.

In paragraph headed "Ste. Anne des Monts River" *for* "crib, broken down and in a crumbling condition" *read* "Government wharf 160 feet in length with 10 feet at the outer end and from 3 to 10 feet in the berths alongside".

In paragraph headed "Tides" *for* "at full and change" *read* "mean interval"; *for* "24<sup>m</sup>" *read* "05<sup>m</sup>".

In paragraph headed "Cap Chat River" *for* "800 feet" *read* "1,113 feet with from 2 to 5 feet of water alongside at low water for about three-quarters of the length."

*Delete* paragraph headed "Buoy".

Cap Chat Government wharf is 913½ feet in length and extends to a depth of 15¾ feet; there is a depth of 10 feet in the berth 150 feet long on each side.

**Page 20.**—*Delete* paragraph headed "Marine Signal Station".

**Page 21.**—*Delete* paragraphs headed "Tidal streams and currents" and "Caution" and *substitute*:

**Currents and tidal streams.**—The currents from Father Point to Ste. Anne des Monts and across to Pointe des Monts were examined during the summers of 1932 and 1933 by the Hydrographic Service and the following is summarized from the printed report of that work.

Below Father Point to Matane the current, generally but not always outward, as observed at an offing of 5 miles, may be turned several points or directly onshore at times during the flood tide periods. Near Matane the onshore directions are more general, and in the area from this stretch of the shore across to Pointe des Monts, southerly and easterly currents are the rule. Both flood and ebb tidal streams are found close along shore, but are not dependable.

From Father Point to Matane, 5 miles offshore, a southerly set was found only with rising tides, rarely reaching 0.7 knot and averaging 0.3 knot. The currents were weaker and not so consistently outward along this part of the coast.

From Matane to Ste. Anne des Monts.—At an offing of approximately five miles currents were found to flow southeasterly a greater part of the time; these onshore currents were most pronounced from just below Matane to Cap Chat.

The rate with the rising tides in this section averaged 0·7 knot.

The rate with falling tides average 1·1 knots but a maximum of 2·4 knots was observed.

Generally with rising tides the currents were more directly onshore and at times veered, to a varying degree, to the westward.

The strongest set directly toward shore did not exceed 1·0 knot, and the mean rate throughout a tidal period did not exceed 0·6 knot, except in the vicinity of Cap Chat where this shoreward set was found to be about a quarter of a knot stronger.

Pointe des Monts, South and Southeasterly. Sixteen miles eastward from Pointe des Monts a continuous southerly current as much as 1·25 knots and averaging 0·75 knot was found.

Seven miles south of this position, centrally at the mouth of the estuary, the southerly flow of the current was much less pronounced. With falling tide the rate was less than 0·5 knot and during rising tide the current was weak and variable in direction.

Eastward of this latter position, in the open beyond the estuary, the currents were weak and variable.

Due south of Pointe des Monts.—About in the middle of the estuary there was found at times a southward current, with a rate as high as 1·2 knots and averaging 0·9 knot. At other times practically no current was experienced.

Westward seven miles from this last position and in the central area, a southerly set of 0·5 knot was found. At other times the current here was mostly northerly and weak.

Summarized, in this latter area when the currents were noticeably strong, the direction was southerly; also southward currents are not continuous in the central area westward of Pointe des Monts.

Cross Current, Pointe des Monts to Cap Chat.—The currents in this region which were generally southeasterly were more continuous and definite in direction than elsewhere. The average rate with rising tide was 0·7 knot and with falling tide, 1·0 knot. A maximum rate of 2·0 knots was observed, but the direction then was only nearly eastward, slightly onshore.

A vessel would experience a greater set to the southward with rising tide, for although the current would likely be weaker, the direction would be more across the estuary.

The greatest southward set observed during any single hour was 1·25 knots and the mean rate of this onshore component of the current over a tidal period, did not exceed 0·8 knot.

**Caution.**—Vessels inward bound should not attempt a saving of time from the westward currents sometimes found close inshore with *rising* tides. The inward flow is weak. There are onshore sets, as described above, whose strength and direction are variable, and it should be borne in mind that there may be times when the amount of the onshore set would be greater than what was found in the course

of the survey. For this reason caution in navigating close inshore is urged, the advantage to be gained not being commensurate with the risk involved by steering a course too close to the land.

**Page 22.**—The Government wharf at Dalibaire has been lengthened to 900 feet, including an ell 94 feet in length. In the berth on the southern side of the ell is a depth of 19 feet with good shelter for small craft in all winds excepting those from north-east to east. This berth is not considered safe for anything larger than barges. Larger vessels are loaded by lighters while at anchor.

The wharf at Ruisseau a la Loutre is 567 feet long with 13 feet of water at the head.

At Ste. Felicite a *fixed white* light is shown, at an elevation of 19 feet, from a white mast located on the wharf about 20 feet from the outer end.

**Page 23.**—In paragraph headed “Roix Shoal” for “4 fathoms” read “3 fathoms.”

After the paragraph headed “Roix Shoal” *insert*:

**Buoy.**—A black can buoy, 19B, is moored on the north extreme of Roix Shoal.

*Delete* paragraph headed “Two breakwaters” and *substitute*: Two breakwaters or training piers have been erected at the entrance of the river parallel to the channel. The eastern breakwater is 1,100 feet and the western 975 feet long.

*Delete* paragraph headed “Dredged channel” and *insert*:

A channel between the breakwaters leading from deep water to the harbour, in 1941, had a depth of  $7\frac{1}{2}$  feet.

In paragraph headed “Wharves” for “12 to 14 feet at low water in 1929” read “9 feet and along the inner half 12 feet in 1941”; for “practically dry” read “2 to 9 feet”; for “in 1928 of 15 feet” read “in 1941 of  $11\frac{1}{2}$  feet”; *add* to the paragraph “On the west side of the harbour, inside the Government wharf, a basin about 500 feet by 200 feet, was dredged in 1940 to a depth of 8 feet. There is wharfage, with a total length of 800 feet around the basin, and the berths alongside were dredged, the same year, to a depth of 11 to 14 feet”.

*Delete* body of paragraph headed “Leading lights” and *substitute*:

Two *fixed red* lights, in line bearing  $148^\circ$ , mark the centre line of the dredged channel leading into the harbour. The front light is shown, at an elevation of 78 feet, from a white wooden framework with a square slatwork daymark on the upper portion facing the alignment. The rear light is shown, at an elevation of 107 feet, from a white wooden framework with a square wooden daymark on the upper portion, facing the alignment, 466 feet from the front light.



**Page 24.**—Delete paragraph headed "Marine Signal Station". In the paragraph headed "Light-and-bell-buoy" change "*occulting*" to "*flashing*."

In the paragraph headed "Tides" for "High and low waters occur at Matane, 4 minutes earlier than at Father Point" read "It is high water, mean interval, at Matane at 2h. 00m."; for "Springs rise 12 $\frac{3}{4}$  feet" read "Springs rise 11 $\frac{1}{4}$  to 14 feet."

Add to paragraph headed "Caution.—Depths":

During the winter the channel at the bar usually fills to a depth of about 5 feet.

**Page 25.**—Delete body of paragraph headed "Tidal streams" and substitute: "See pages 27 to 28 of this Supplement."

**Page 26.**—After paragraph headed "Sandy Bay" insert:

**Wharf.**—At Sandy Bay a wharf 853 feet long extends to a depth of 13 $\frac{1}{2}$  feet with 8 feet in the berth 80 feet long on each side.

**Light.**—A fixed red light is shown, at an elevation of 28 feet, from a mast with a small white shed at its base on the outer end of the Government wharf at Sandy Bay.

Delete paragraph headed "Marine Signal Station".

At Metis is a Government wharf 300 feet long which is about dry at low water.

**Air firing and bombing range.**—An air firing range and a bombing range have been established by the Royal Canadian Air Force on the south side of the St. Lawrence River, about 3 miles eastward of Father Point. The limits of these ranges will be as follows:—

**Air firing range.**—Beginning at a point on the shore eastward of Cock Point in Latitude 48° 33' 10" N., Longitude 68° 21' 20" W., the boundary will extend 3.15 miles 276° 15'; thence 1.33 miles 17° to black gas buoy No. 25-B; thence 13 miles 55°; thence 3.7 miles 143°; thence 2.4 miles 240° to a point on shore in Metis Bay marked by a land beacon.

**Air bombing range.**—This range will consist of a circular area having a radius of 1,000 yards from a point in Latitude 48° 32' 28" N., Longitude 68° 26' 03" W.

The boundaries of these areas will be marked by buoys, orange-yellow in colour, and when air firing or bombing is in progress the boundaries will be patrolled by Royal Canadian Air Force motor-boats.

**Page 27.**—Delete paragraph headed "Government wharf" and insert:

**St. Flavie Government wharf.**—A wharf, about 851 $\frac{1}{2}$  feet long, extends in an easterly direction from Cock Point. There is a depth of one foot at the outer end at low water and 14 feet at high water.

In paragraph headed "Light-buoy" *delete* "6 cables northward of Cock Point, exhibits an *occuluting white light*" and *substitute* "4.1 miles 28° from Father Point lighthouse, exhibits a *flashing white light*".

**Page 31.**—*Delete* the first sentence of the paragraph headed "Tides and tidal streams" and *substitute*:

The mean lunitidal intervals for Betchewun Harbour are: High water 0h. 2m., low water 6h. 35m.; springs rise 6 feet and neaps 4½ feet.

**Page 34.**—In paragraph headed "Leading lights, Eskimo Point" *for* "red masts" *read* "white masts".

**Page 35.**—In the paragraph headed "Tides and tidal streams" *delete* the first sentence and *substitute*:

The mean lunitidal intervals for Eskimo Harbour are: High water 0h. 16m., low water 6h. 53m.; springs rise 7 feet and neaps 4½ feet.

In paragraph headed "Leading lights, Havre St. Pierre" *for* "770 feet and bearing 96°" *read* "720 feet and bearing 100°".

**Page 39.**—*Add* to paragraph headed "Tidal streams":—

The mean lunitidal intervals for Mingan are: High water 0h. 50m., low water 7h. 13m.; springs rise 7¾ feet and neaps 5 feet.

In paragraph headed "Leading lights.—Eastern entrance range" *for* "20 feet" *read* "21 feet"; *for* "33 feet" *read* "42 feet"; *add* to the paragraph "The front light mast has a white diamond-shaped slatwork daymark at the top and the back light mast has a white square slatwork daymark." The back light is 620 feet 288° from the front one.

In paragraph headed "Western entrance range" *for* "17 feet" *read* "20 feet"; *for* "32 feet" *read* "63 feet"; *add* to the paragraph "The front light mast has a white diamond-shaped slatwork daymark at the top and the back light mast has a white square slatwork daymark." The back light is 1,460 feet 66° from the front one.

**Page 40.**—After paragraph headed "Light" *insert*:

**Fog-signal.**—A hand horn answers signals from vessels.

**Page 41.**—In the paragraph headed "Light" *for* "25 seconds" *read* "24 seconds."

*Insert* the following paragraph below paragraph headed "Fog-signal":

**Radio beacon.**—A radio beacon has been installed close to the lighthouse. The call letters are VGJ. *See* page 6 of this Supplement

**Page 45.**—In paragraph headed “Marine Signal and Telegraph Station” for “telegraph” read “telephone.”

*Delete* paragraphs headed “Light-vessel” and “Fog-signal.”

*Insert* the following paragraphs after paragraph headed “Light”:

**Radio beacon.**—A radio beacon has been installed at Heath Point. The call letters are VGC. *See* page 6 of this Supplement.

**Fog explosive signal.**—In connection with the radio beacon limited operation of a fog explosive signal of one explosion every fifteen minutes will be made upon request by the masters of vessels passing this station.

**Page 46.**—*Delete* paragraphs headed “Radio beacon” and “Radiotelegraph.”

*Add* to paragraph headed “Tides and tidal streams”:

The tidal stream veers continually in a right-handed direction making a complete turn in a tidal period. The speed seldom exceeds one knot.

**Page 47.**—*Add* to paragraph headed “Fog-signal”: This alarm is inaudible at any serviceable distance in some conditions of the atmosphere.

The signal station at South Point has been discontinued.

**Page 48.**—To paragraph headed “Tidal streams” add:

In a position  $8\frac{1}{4}$  miles  $128^\circ$  from Bagot Point light the current veers continually in one direction which is usually right-handed. The rate is not uniform but is more rapid in passing the onshore and offshore directions. The maximum velocities occur from 2 to  $3\frac{1}{2}$  hours before high water and low water at Father Point and these are seldom more than  $1\frac{1}{4}$  knots.

The signal station at Southwest Point has been discontinued.

**Page 49.**—*Delete* body of paragraph headed “Tides” and *substitute*:

The mean lunital intervals for Southwest Point are: High water 1h. 20m. and low water 7h. 40m.; spring tides rise 6 feet and neaps  $4\frac{1}{2}$  feet.

*Insert* the following paragraph after paragraph headed “Beesie River”:

**Leading lights.**—At Beesie River, vessels loading pulpwood anchor at the intersection of the alignment of the following two sets of privately maintained *fixed white* leading lights:

The front light of the western leading line is situated on the pier off the mouth of the river and the back light is on shore on the west side of the river about 2,700 feet,  $3^\circ 30'$  from the front.



The front line of the eastern leading light is situated about three-quarters of a mile southeast of the western front light and the back light is on shore about 1,000 feet,  $46^{\circ} 30'$  from the front light.

**Page 50.**—There is a Radiotelegraph Station at Ellis Bay.

*Add to paragraph headed "Wharves":*

In 1928 the berth at the north or main wharf, 600 feet long, was dredged to a depth of 20 feet; the berth at the south or commercial wharf was dredged to 22 feet and the channel of approach, 300 feet wide, was dredged to a depth of 20 feet; some filling in has probably occurred since that time.

**Page 51.**—The leading lights at White Cliff are 80 and 90 feet high.

*Delete body of paragraph headed "Tides" and substitute:*

The mean lunital intervals for Ellis Bay are: High water 1h. 30m., low water 7h. 50m.; springs rise 7 feet and neaps 5 feet.

**Page 52.**—*Delete paragraph headed "Marine Signal and Telegraph Station".*

*In paragraph headed "Banc Parent" for "30 fathoms" read "25 fathoms."*

*Add to paragraph headed "Tidal streams":*

The streams through Mingan Passage are tidal running north-westward with a rising tide and southwestward with a falling tide. It veers considerably from these directions, however, and the rate may amount to  $1\frac{1}{2}$  knots in either direction.

**Page 53.**—*Insert the following paragraph after paragraph headed "Highcliff Point":*

**Trois Ruisseaux—Leading lights.**—At Trois Ruisseaux, about 3 miles eastward of Cap de Rabast, vessels loading pulpwood anchor at the intersection of the alignment of the following two sets of privately maintained *fixed white* leading lights:

The front light of the eastern leading line, situated near the shore at the east side of the bay, is shown at an elevation of 50 feet from a lantern on a pole with a triangular-shaped daymark attached. The back light, situated 400 feet,  $159^{\circ}$  from the front light, is shown at an elevation of 65 feet from a lantern on a pole with a diamond-shaped daymark attached.

The front light of the western leading line, situated on the western side of the bay, is shown at an elevation of 42 feet from a lantern on a pole with a triangular-shaped daymark attached. The back light, situated 400 feet,  $230^{\circ} 30'$  from the front light, is shown at an elevation of 55 feet from a lantern on a pole with a diamond-shaped daymark attached.

**Page 55.**—Add to paragraph headed "Tidal streams":

At a point  $1\frac{1}{2}$  miles off East Cape the current is nearly parallel to the shore with a prevailing southward set. At times its direction is irregular as it may set in the same direction all day or turn twice a day.

**Page 56.**—In paragraph headed "Leading lights" for "about half a mile westward" read "on the west side"; delete "bearing  $13^{\circ}$ ".

Delete body of paragraph headed "Tides" and substitute:

The mean lunitidal intervals at the entrance of the St. John River are: High water 1h. 00m., low water 7h. 23m.; springs rise 8 feet and neaps  $5\frac{1}{2}$  feet.

**Page 57.**—After paragraph headed "Magpie Bay" insert:

**Uncharted bank.**—An uncharted bank, under a depth of 10 fathoms, half a mile long, with its long axis extending east-northeast and west-southwest, lies in the entrance to Magpie Bay. On this bank are two heads with 41 and 37 feet of water over them, lying respectively, 3.3 miles  $245^{\circ} 15'$  and 3.7 miles  $245^{\circ} 45'$  from Riviere St. Jean Church.

**Page 58.**—There is a Government wharf at Thunder River about 1,100 feet long with a depth of 15 to 19 feet at the outer end; in the berth on the east side, 215 feet long, there is a depth of  $13\frac{1}{2}$  feet and the same depth on the west side for 150 feet.

In paragraph headed "Leading lights" for "25 feet" read "38 feet"; for "33 feet" read "71 feet."

After paragraph headed "Leading lights" add:

**Fog-horn.**—A hand fog-horn, located at the front light, answers signals from vessels.

**Page 59.**—In paragraph headed "Sheldrake River" for "3 to 11 feet in it, according to the time of the tide, at ordinary springs; at high water neaps there is seldom more than 8 feet." substitute "3 to 8 feet."

In paragraph headed "Light" for "fixed white light" read "fixed red light."

After paragraph headed "Light," add "**Storm Signal Station.**—Storm signals are displayed from the top of a hill one-quarter of a mile west of the light".

In paragraph headed "Leading lights" for "alignment  $355^{\circ}$  true" read "alignment  $1^{\circ}$ "; insert "fixed" before "white."

**Page 61.**—The leading lights at Matamek River are privately maintained.

**Page 62.**—At Moisie is a Government wharf  $94\frac{1}{2}$  feet long extending to a depth of 2 feet.

Delete the paragraph headed "Tides." See data for Seven Islands, page 67.

**Page 65.**—The Government wharf at Seven Islands is 546 feet long and 43 feet wide at the outer end with a depth of  $12\frac{1}{2}$  feet along the face.

**Page 66.**—In paragraph headed "Government wharf" delete the second and third sentences and substitute "In 1939 the berth on the south side of the wharf 460 feet long and 80 feet wide was dredged to a depth of  $16\frac{1}{2}$  to 25 feet and the berth on the north side 380 feet long and 80 feet wide to a depth of 15 to 25 feet.

**Page 67.**—In the paragraph headed "Tides" delete the first line and substitute:

The mean lunitidal intervals at Seven Islands are: High water 1h. 43m. and low water 8h. 00m.; springs rise  $10\frac{1}{2}$  feet.

**Page 68.**—After paragraph headed "St. Margaret River" insert: St. Margaret Village, with a Roman Catholic Church, is situated on the western side of the entrance of the river.

Leading lights are shown on the west side of the river; the front light is shown, at an elevation of 23 feet from a mast with a white shed at its base and the back light, at an elevation of 48 feet, from a white tower with a white square slatwork daymark. The lights are fixed red and are liable to be moved to suit the shifting of the channel.

Delete body of paragraph beginning "A wharf" and substitute "A wharf, about 350 feet long, is owned by the company operating at Shelter Bay. In 1939 the berth on the north side 260 feet long and 150 feet wide was dredged to a depth of  $15\frac{1}{2}$  feet."

In paragraph headed "Leading lights" for "351°" read "346°". The lights are fixed red and are privately maintained. A fog-horn at the front light will answer signals from vessels.

**Page 69.**—In the paragraph headed "May Islets—Light" for "occuluting" read "flashing."

Delete body of paragraph headed "Fog-signal" and substitute: "An acetylene gun, located about 350 feet southward of the lighthouse, will be fired once every minute during foggy weather.

The light on Great Cawee Island shows one flash every 21 seconds."

**Page 70.**—In the paragraph headed "Tides" delete the first sentence and substitute:

It is high water, full and change, at Cawee Islands at 2h. 10m.; springs rise  $10\frac{3}{4}$  feet, neaps  $7\frac{1}{2}$  feet.

**Page 71.**—In paragraph headed "Leading lights" after "masts" insert "with daymarks"; for "20 and 79" read "54 and 145." The lights are 1,115 feet apart.



**Page 72.**—After paragraph headed “English Point” *insert*: “Breakwater.—English Point breakwater is 337 feet long and extends to a depth of 3 feet.”

**Page 73.**—Under “Tides” *delete* the first sub-paragraph and *substitute*: “It is high water, full and change, at Egg Island at 2h. 10m., low water at 8h. 20m.; springs rise  $11\frac{1}{2}$  feet and neaps, 8 feet.”

**Page 74.**—*Delete* paragraph headed “Marine signal and telegraph station”.

**Page 75.**—*Delete* paragraph headed “Tidal streams and currents” and *substitute*:

**Tidal streams and currents.**—Around Pointe des Monts there is little or no flood stream running westward excepting very close inshore. In the offing there is usually a weak southerly current; this and the general outward current in the southern part of the estuary converge and flow southeasterly into the Gaspe Current. (See pages 27 and 28 of this Supplement.)

**Page 77.**—In paragraph headed “Government wharf” for “750 feet” read “1,040 feet”; for “14 feet” read “ $19\frac{1}{2}$  feet”; *delete* “and 8 feet for a distance of 420 feet along the westerly face and 450 feet along the easterly face” and *substitute* “and 18 feet on each side for 135 feet and 14 feet for 390 feet.”

In paragraph headed “Fog-signal” *change* “silent interval  $\frac{3}{4}$  second” to read “silent interval *three seconds*.”

To paragraph headed “Radiotelegraph station” *add* “The call signal is VCF.” See page 6 of this Supplement.

**Page 78.**—*Delete* the first four sub-paragraphs under the heading “Pilotage service” and *substitute*:

**PILOTAGE.**—*In Normal Weather.*—Vessels inward bound requiring pilots may secure them at Father Point from the pilotage tender stationed there. At nighttime such vessels should blow four long blasts on the whistle when at least two miles off (vessels with corrugated sides should blow five long blasts) denoting that a pilot is required and that the vessel is not a coasting vessel, which may not require a pilot. The pilot tender will give four short blasts on her whistle acknowledging the request for a pilot.

*In Abnormal Weather.*—In abnormal weather such as fog, snow or heavy rain, the vessel requiring a pilot shall, in addition to the regular signals, blow four long blasts at intervals until the pilot vessel is located. The pilot vessel will, in addition to the regular signals, blow four short blasts at intervals.

*In Rough Weather.*—When approaching Father Point, if the sea is rough and the wind is strong from east to west, pilots and masters

are requested, when the pilot vessel is seen approaching, to put their vessels before the wind, proceeding slowly, and they must under no consideration offer a lee to the pilot vessel.

Should the wind be strong north or northwest, masters of vessels are requested to keep well off Father Point, the Master of the Pilot Vessel on reaching them will give his instructions, which if followed will avoid loss of time. Masters should also keep steerage-way on their vessels preventing them from drifting, otherwise the tender will not go alongside.

*Radio Telephones.*—In addition to the wireless station at Father Point, radio telephones are installed on the Pilot Vessel *Citadelle*, and in the Pilotage Office at Father Point. Vessels approaching Father Point and equipped with radio telephone apparatus may communicate direct with the Pilot Vessel or with the Pilotage Office on a frequency of 1602 K/cs. (187·2 metres).

The call letters of the *Citadelle* are CGPM, and those of the Pilotage Officer, VBU.

*Delete* paragraph headed "Quarantine." The Quarantine Station for the St. Lawrence River is now at Quebec.

An agreement has been entered into between Canada and the United States of America to accord reciprocal recognition to quarantine pratique, granted by either, to vessels entering their international water. (*See Quarantine Regulations, which may be obtained from the licensed pilots or from the Department of Health, gratis.*)

*See also* pages 12 to 16 of this Supplement.

**Page 79.**—In the paragraph headed "Light-buoy" for "light-buoy" read "light-and-bell-buoy"; for "a white light occulted at short intervals" read "a flashing green light.

*Delete* first sentence of paragraph headed "Tides" and *substitute*:—

The mean lunitidal intervals at Father Point are: High water 2h. 06m. and low water 8h. 22m.; springs rise from 13 to 16 feet and neaps 10 feet.

**Page 80.**—In paragraph headed "Government wharf" for "3 feet" read "8 feet"; *delete* "There is a depth of about 16 feet along the outer end, and for a distance of about 150 feet along the easterly side" and *substitute* "There is a depth of from 16½ to 20 feet along the outer end and 12 feet on the eastern side for 200 feet."; *delete* from "A dredged tidal basin . . ." to ". . . dredged to 22 feet at low water" and *substitute* "A new jetty, 700 feet long, and 100 feet wide, lies 600 feet west of and parallel to the Government wharf with its outer end 640 feet inside the outer end of the wharf. The berth alongside the jetty, 500 feet in length, has a depth of 20 feet, with the exception of a spot near the outer end with 17 feet over

it. On the west side of the Government wharf, the berth 950 feet long, has a depth of 19 feet. In the basin between the two structures is a limiting depth of  $18\frac{1}{2}$  feet.

The approach channel, 200 feet wide, has a limiting depth of  $12\frac{1}{2}$  feet."

**Caution.**—Rimouski aerodrome is located on high land about 800 feet southeast of the inner end of the Government wharf. Several red and white lights are exhibited at the aerodrome prior to the arrival of the air mail plane. Both the landing lights and the red lights are visible from the river and should not be confused with the navigation lights in the vicinity.

**Page 81.**—In the paragraph headed "Light-buoy" for "a white light occulted thus: visible 7 seconds, eclipse 6 seconds" read "a flashing white light."

**Page 82.**—After paragraph headed "Barnaby Road" insert:

Sacre Cœur Village is located about a mile southwest of Bare Rock; there is a Government wharf 287 feet long with a berth on each side 140 feet in length, with a depth of 11 feet.

To paragraph beginning "There is an inner wharf. . ." add "The outer end of this wharf is in ruins and two stakes with hardwood bushes on top have been placed to mark the outer submerged corners."

Bic wharf, located at the mouth of the Bic River, is 1,120 feet long with an ell end 65 feet in length. The wharf dries at low water and at high water there is a depth of  $12\frac{1}{2}$  feet along the face and 11 to  $12\frac{1}{2}$  feet at the end of the ell.

In the paragraph headed "Tides" for " $15\frac{1}{4}$ " read " $14\frac{3}{4}$ ."

**Page 83.**—Delete the paragraph headed "Tides."

**Page 84.**—In the paragraph headed "Light" before the last sentence insert: A red sector shows over an arc of  $39^\circ$  from  $250^\circ$  through west to  $289^\circ$ , covering Northeast and Southeast Reefs off the east end of Bic Island. However, the red sector is not clearly defined. Proceeding from north to south, the light shows a pinkish colour about nine-tenths of a mile off Father Point light-and-bell-buoy, 27B, and the full red intensity shows only close to the buoy.

**Page 86.**—Alcide Rock black can buoy, No. 31B, has been moved to a new position 950 feet northwestward of Alcide Rock and on the alignment of the St. Fabien beacon and the vertical fall on the eastern side of the notch in the top of the mountain behind.

In paragraph headed "Beacons.—Clearing marks" delete from the beginning of the paragraph to ". . . keep either set of beacons open" and substitute:

**Day beacons.**—A new day beacon has been erected near the southwestern end of Bic Island, and behind the former back beacon



used to designate the position of Alcide Rock. The alignment of the new beacon and the original front beacon leads over the rock. The former back beacon has been discontinued.

The front beacon at St. Fabien also used in connection with Alcide Rock has been permanently discontinued. The beacon formerly used as a back beacon in line with the vertical fall on the eastern side of the notch, high up on the mountain behind, also leads directly over the rock.

**Tidal streams, Bic Island locality.**—From two hours after low water until the time of high water at Father Point the currents are weak, usually under a knot, in the near offing of Bic Island, and also, as observed at points five miles above and below. In this period the set is shoreward below the island and offshore above, except occasionally around the fourth hour after low water, when the set in this locality may be to the southward three-quarters of a knot. At other times the currents are directly outward with an average mid ebb rate of  $2\frac{1}{4}$  knots, off Bicquette Island where the currents in this locality are strongest.

A flood current sets along shore above Barnaby Island. In the middle of Bic Channel it begins about one hour after low water and runs until the time of high water. Flood and ebb rates here are approximately  $1\frac{1}{4}$  knots with average tides.

**Note.**—The Department of Transport discourages the use of the channel on the south side of Bic Island, known as Bic Channel. Should it be necessary to use this channel, ships should pass on the north side of Alcide Rock, that is, between Alcide Rock and Bic Island.

At St. Fabien is a wharf 325 feet long; it dries at low water.

**Page 88.**—In paragraph headed "Wharf" for "12 feet" read "10 feet".

In paragraph headed "Light" for "23 feet above water" read "31 feet."

**Page 89.**—*Delete* body of paragraph headed "Tides" and *substitute*:—

It is high water at Trois Pistoles 7m. and low water 11m. later than at Father Point; springs rise from  $14\frac{1}{2}$  to 17 feet and neaps 11 feet.

**Page 90.**—In the paragraph headed "Tides," in the last sentence for " $16\frac{1}{2}$ " read "15 to  $17\frac{1}{4}$ "; for "11" read " $11\frac{1}{2}$ ."

**Page 92.**—Before paragraph headed "Ile Ronde" *insert*:

**Wharf.**—On the inside of Green Island, near the eastern end is a Government wharf 172 feet long with a pierhead 110 feet in length; there is a depth of 9 to 11 feet along the face at *high water*.

*Delete* last line of paragraph headed "Government wharf" and *substitute* "The wharf has an ell end 144 feet long with a depth of 11 feet along the face at *high water*."

In paragraph headed "Leading lights" for "15 feet" read "13 feet."

At the end of the page *add*:

The channel leading to the wharf at Ile Verte is marked by eight bushed stakes.

**Page 93.**—The light at the mouth of Riviere des Vases has been discontinued.

Before paragraph headed "Buoys" *insert*:

**Fog-signal.**—At Red Islet a diaphone gives *one* blast of 2 seconds every 30 seconds from a building near the lighthouse.

**Page 94.**—In paragraph headed "Light vessel" for "*flashing*" read "*occulting*."

In paragraph headed "Fog-signal" for "steam fog" read "tyfon."

**Pages 94 to 96.**—*Delete* the information on these pages under the heading "Current and tidal streams between Father Point and Red Islet" and *substitute*:

**Tidal streams, North side.**—The flood stream coming up the northern side of the St. Lawrence Estuary sets fairly along the north shore as far as the Bergeronnes Coves where in the offing it meets part of the ebb water from the Saguenay and is deflected to the southward. Later, it turns to run into the Saguenay, but part continues between the shoals at the mouth of that river and Red Islet into the North Channel. At a greater offing from the north shore in this region the advancing flood turns southward, farther on to flow over and to the eastward of Red Islet Bank thence into the south channel. As observed a mile and a half northeast of the 20-fathom line of the Red Islet Bank the veer from the ebb to the southerly flood direction takes place gradually from  $2\frac{1}{2}$  to 5 hours after low water and continues round until the direction is westward at 2 hours after high water. Here the southerly rate for average tides measured  $1\frac{3}{4}$  knots, in direction  $100^{\circ}$  to  $200^{\circ}$ .

Between Portneuf and Bergeronnes the flood, inshore, is of greater duration than the ebb. The west-going portion of the stream, however, extends but a very short distance from the shore, and from 4 to 6 miles off a weak flood and strong ebb are felt.

At the commencement of the flood the stream sets strongly around Milles Vaches Point into the bay but as the flats cover it takes up a direction parallel to the coast. In the late summer and autumn months when west and northwest winds are prevalent, local sailing craft bound up make the north shore as soon as possible and tack on and off in the narrow belt of westerly current.

**Tidal streams.—NOTE.**—Navigators are strongly urged to provide themselves with a copy of the "Atlas of Tidal Current Charts for hourly stages of the tide in the St. Lawrence Estuary along the main steamship route between Orleans Island and Father Point" published by the Hydrographic and Map Service of the Department of Mines and Resources. (Price \$1.00.)

References to high and low water in the following are to the tide as at Father Point.

**EBB CURRENTS, RED ISLET REGION.**—At Prince Shoal the current has slackened or turned weakly to a northerly direction, two to two and a half hours after high water just before the ebb waters from the Saguenay River arrive. Outward beyond Prince Shoal, as it gains strength about three hours after high water, the main body of the ebb waters from the Saguenay deflects the current coming through the North Channel of the estuary. The resultant direction of the current is northeasterly, and later more easterly, as the ebb from the North Channel weakens and turns more around Red Islet Bank. In this locality the turn to flood occurs between two and three hours after low water.

Farther out in the estuary, at five miles northeastward of the 5-fathom line of Red Islet Bank, the ebb direction is northerly until turned almost eastward by the Saguenay ebb about five hours after high water. Later, with the increasing flood effect up the estuary from the north, the direction of the current veers gradually, from eastward to southward, between three and four and a half hours after low water, with a rate for average tides falling off from 2 to  $1\frac{1}{2}$  knots, in the same order during this period.

The greater portion of the Saguenay ebb waters, having progressed well across before this southward turn midway in the estuary, reaches the southeastern side, in the offing of Basque and Razade Islands, well on in the rising tide period and joins the preponderant outward flow from the offing of Green Island. Because of the opposition of the flood effect, greatest about this time, the rate of progress is checked so that at high water and from three to four hours afterwards the outward movement is weak in this locality. At full ebb the rate rarely exceeds  $2\frac{1}{4}$  knots, as found  $2\frac{1}{2}$  miles off Basque Island.

Commencing about three hours after high water, the first of the ebb, in the locality southeast of Red Islet and over to the westerly end of Green Island, comes from the south channel. Two hours later the ebb of the North Channel begins to cross over between White Island and Red Islet, and until three hours after low water it determines the direction of the current, turning it obliquely toward Green Island shore. A mile and a half southeasterly of Red Islet the rate with average tides from half an hour or so before low water until about an hour and a half after, is around four knots, and with large tides up to five knots. Six knots, in a period of short duration, was the peak rate observed.



Along the Green Island shore the ebb rate is  $3\frac{1}{2}$  knots with average tides, strongest around the hour of low water. It turns slightly off-shore, farther on, but also sets strongly northeastward over the reefs extending from the lower end of the island. In the offing of Basque and Razade Islands the course of the ebb current about parallels the shore with a rate little over  $1\frac{1}{2}$  knots for average tides.

As the tides change and meet, between Hare Island north reef, Red Islet and Green Island, a series of heavy tide rips is set up. These are usually in a rough line between the eastern end of Green Island and White Island lightship, varying their positions along this line as the beginning of the stream moves east or west.

In the North Channel off Red Islet the current turns to ebb between  $1\frac{1}{4}$  and  $2\frac{1}{4}$  hours after high water. At first the direction is northerly, fairly through the passage, but from roughly an hour to two hours after low water there is a set from the westward toward Red Islet which demands caution. At the lower end of the passage the set towards the bank begins an hour earlier and turns more directly on to the bank with the turn to flood which first approaches from the north (*see also* flood currents). As the ebb turns toward Red Islet Bank, a strong eddy is set up below it which extends out to and beyond Red Islet lightship; apparently it is joined by the last of the ebb from the Saguenay, and flowing easterly, it turns southward farther on, half encircling the shoals. This eddy becomes one with the flood south of Red Islet 3 to  $3\frac{1}{2}$  hours after low water and, at the lightship and for some distance to the eastward, at four hours after low water as at Father Point. The ebb currents through the Red Islet-Lark Reef Passage attain a rate of  $3\frac{1}{2}$  knots with average tides, and with large tides about 5 knots.

Where the ebb waters of the Saguenay meet the currents of the estuary, tide rips, dangerous to small craft, are set up and they are of great turbulence in bad weather particularly over the foul ground north and northeastward of Red Islet. Rips of lesser intensity may be encountered anywhere in the Red Islet region, with flood or ebb tides; they are caused by the differences in the rates and directions of the tidal streams, and their positions vary with the stage of the tide and perhaps from the force and direction of the wind. With strong northeasterly winds the seas become very rough in this area.

**RED ISLET REGION.—FLOOD CURRENTS.**—The flood progresses up the estuary from the Gulf with greater freedom through the deep waters of the northerly side. It is obstructed on approaching Red Islet Bank and the extensive shoals at the mouth of the Saguenay River; a portion flows through the passage between Red Islet and Lark Reef but possibly a greater part turns southward to flow through the passage on the southerly side, later recurving into the North Channel beyond, or continuing up the South Channel. There are flood currents, at depth, crossing to the South Channel eastward of Red Islet Bank while the surface currents in this locality are across and outward.

The first of the flood is turned southeastward in the offing of Grand Bergonnes and southward below Red Islet Bank in the period between 3 and 4 hours after low water at Father Point. Then, the last of the ebb waters from the Saguenay River having crossed to the southerly side of the estuary, flood currents south and southwesterly are general, approaching and passing through the channels on both sides of Red Islet Bank from the fourth hour after low water until nearly two hours after the time of high water. There is thus a set toward Red Islet Bank through the whole of this period which is strongest at five hours after low water; it then bears southward with an average rate of  $1\frac{1}{2}$  knots. Southeast of this bank the flood attains a rate of  $2\frac{1}{4}$  knots and in the North Channel  $3\frac{1}{2}$  knots with average tides. The general outward flow along the southeasterly side of the estuary is frequently halted in the offing from Apple to Razade Islands by the flood tide effect.

Between Red Islet and White Island Reef the tidal stream turns to flood 3 to 4 hours after low water and runs strongest in the hour of high water at the rate of  $2\frac{3}{4}$  knots with average tides and a direction closely due west. The flood from the South Channel passing close by Red Islet, in a direction toward the southerly bank of Lark Reef, reaches half way across the opening of the North Channel between Red Islet and Lark Reef before it is deflected by the North Channel flood. The direction of the confluent current is then roughly toward Cape Basque. This condition is most definite in the hours from 5 after low water until two hours after high water.

**Page 96.**—In paragraph headed "Directions from Father Point to Red Islet" *delete* "Although the full force of the permanent east-going stream is felt on the above courses they are, approximately, those followed by pilots when between Father Point and Red Islet."

On the flood tide the currents are very variable between Red Islet and Green Island, there being but little west-going stream."

In the third line from the bottom *for* "Bis" *read* "Bie".

**Page 97.**—In paragraph headed "Directions for south shore course" to the second sentence after "mainland" *add* "and north of the buoy marking Alcide Rock."; *delete* "Approaching the vicinity of Alcide Rock care must be taken to keep one of the two pairs of placing beacons open (See page 86)".

**Pages 98 and 99.**—The Godbout leading lights and fog-horn have been discontinued.

**Page 99.**—In paragraph headed "Anchorage" *delete* "in the alignment of lights, or within a quarter of a mile of it" and *substitute* "abreast of a position half a mile north-northeastward of the eastern entrance point of Godbout River"; *delete* "close to the leading light".

In paragraph headed "Directions" *for* "Godbout leading lights can be followed as soon as picked up" *substitute* "the anchorage can be approached on a  $282^{\circ}$  course"; after "des Monts" *insert* "light";

*delete* "either of the leading lights bears about north" and *substitute* "about 8 miles from the light alter course northward and then as necessary to approach the anchorage as mentioned above."

**Page 100.**—*Delete* the paragraph headed "Tides" and *substitute*:

**Tides.**—High water and low water are 10 minutes earlier than at Father Point. Springs rise  $11\frac{3}{4}$  to  $13\frac{1}{2}$  feet; neaps  $8\frac{3}{4}$  feet.

*Delete* paragraph headed "Light".

The berth on the north side of the wharf at Franklin was dredged in 1928 to a depth of 17 feet; the berth is 240 feet in length and from 60 to 115 feet in width.

**Page 101.**—The light on St. Pancras Point is *flashing white*.

**Baie Comeau.**—The Town of Baie Comeau is situated about  $1\frac{1}{2}$  miles north of the mouth of the Manikouagan River. The most conspicuous objects from seaward are the mill, located at the bottom of the bay, the manoir on the south entrance point and some oil tanks on the north entrance point of the bay near the root of the wharf. The town has two churches, two schools, a hospital with resident doctor, shops, a hotel, water supply, sewerage system and electric lighting. The population is about 2,500 (1938). A standard gauge railway connects the mill and the wharf and good roads have been built between the wharf, mill, and town.

**Wharf.**—From the north entrance point of Comeau Bay a wharf extends 1,903 feet easterly and thence 423 feet northeasterly with berths for two lake freighters of ordinary size. On the sheltered north side the outside berth, 400 feet long, has a depth of from 21 to 24 feet; the middle berth 360 feet long has a depth of from 14 to 20 feet and in the inner berth for schooners there is a depth of from 7 to 14 feet.

**Communications.**—Boats plying on the north shore of the River St. Lawrence make this a port of call and a ferry runs to Rimouski. A highway to Outardes Falls connects with the provincial system.

There is a wireless telephone station in the town and a telegraph station.

**Light.**—On the outer end of the wharf an *occulting green* light is shown at a height of 38 feet.

**Fog-signal.**—A fog siren, located on the light pole, operated by electricity, gives *one* blast of 12 seconds followed by a silent interval of 17 seconds. This fog-signal is privately maintained.

**Light-and-bell-buoy.**—A red cylindrical light-and-bell-buoy, No. 20-B, showing a *flashing red* light, is moored off the mouth of the Manikouagan River  $3\frac{1}{2}$  miles  $95^\circ$  from St. Giles Point; the bell is rung by the motion of the buoy on the waves.



**Tides.**—High water at Comeau Bay is 11 minutes earlier and low water 7 minutes earlier than at Father Point. Springs rise 13 to 15 feet and neaps  $9\frac{1}{2}$  feet.

After paragraph headed "Manikuagan River" *insert*:

**Wharf.**—There is a Government wharf on Pointe Lebel 250 feet long with a pierhead 110 feet in length; at *high water* there is a depth of 14 feet along the face.

**Page 102.—Peninsula of Manikuagan.**—The Manikuagan and Outardes Rivers form, at their confluence with the St. Lawrence River, a large peninsula of approximately 125 square miles, 100 of which are rather level and of good tillable soil. This area has been set aside by the Provincial Government for colonization purposes and in 1932 had a population of sixty families. Colonization is also developing rapidly west of the Outardes River in the township of Ragueneau, where there is already a population of 1,500.

**Wharf.**—A wharf extending southerly, 300 feet, with 10 feet of water at high water at the outer end, but dry at low water, is located  $1\frac{3}{4}$  miles east of the extreme of Outardes Point. At low water the beach dries for  $1\frac{1}{4}$  miles outside of the wharf.

**Leading lights.**—Two *fixed white* lights on masts with small white sheds at the base, elevated 33 and 50 feet above the water in line bearing  $354^{\circ}$ , lead up to the wharf at Outardes Point.

In paragraph headed "Outardes River" for "2 or 3 feet at low water" read "4 feet at low water."

In paragraph headed "Light-and-bell-buoy" for "*occulting*" read "*flashing*".

**Light-buoy.**—A red steel cylindrical buoy showing a *flashing red* light is moored on the east side of the channel at the entrance to the Outardes River.

**Leading lights.**—The channel across Outardes Bay is marked by two sets of leading lights, viz., the eastern and western ranges.

**Eastern range.**—These lights, *fixed red*, are shown at elevations of 35 to 56 feet from white framework structure with daymarks, located about half a mile west of the mouth of Riviere aux Vases. In line, bearing  $9^{\circ}$ , they lead through the outer section of Riviere aux Vases Channel to their intersection with the western range.

**Western range.**—These *fixed white* lights are shown at elevations of 23 and 40 feet from similar structures, located about  $1\frac{1}{2}$  miles west of the mouth of Riviere aux Vases. In line, bearing  $348^{\circ}$ , they lead through the inner section of Riviere aux Vases Channel from their intersection with the eastern range.

**Wharves.**—The Ontario Paper Company has a wharf at Outardes Falls, about 250 feet long, for loading pulpwood. Ragueneau Government wharf, located about  $1\frac{1}{2}$  miles west of the mouth of Riviere aux Vases, is 152 feet long with an ell end 80 feet in length; there is a depth of 8 feet along the face.

**Light.**—The company maintains a light on the outer end of their wharf.

At the bottom of the page *insert* a new paragraph:—

**Tides and tidal streams.**—It is high water, full and change, at the mouth of the Outardes River at 2h. 22m.; low water at 9h. 46m.

**Tides.**—High water in the mouth of the Outardes River, near White Island, is four minutes earlier and low water forty minutes later than at Father Point. Springs rise 13 to 16 feet and neaps 10 feet.

**Page 103.—Wharf.**—At the mouth of Riviere aux Rosiers, at the bottom of Outardes Bay, is a wharf of the Anglo-Canadian Pulp and Paper Co. The channel across the drying flats to this wharf is marked by a set of beacons and buoys.

After the paragraph headed “Bersimis River” *insert*:

**Tides.**—Inside the bar high water is 2m. earlier and low water 21m. later than at Father Point. Springs rise 13 to 15 feet and neaps  $9\frac{1}{2}$  feet.

**Page 104.**—In the paragraph headed “Leading lights” for “20” read “35”; for “30” read “40.”; delete “bearing  $296^{\circ}$  true”.

Light-buoy, 23B, shows a *flashing white* light.

In paragraph headed “Bar.—Buoys” delete reference to the buoys as they are not being maintained at present.

Delete body of paragraph headed “Government wharf” and *substitute*:

The Government wharf at Bersimis is 590 feet long with a “T” end having a length of 84 feet. The wharf is dry at low water but has a depth of about 10 feet along the face at high water. There is considerable traffic over the wharf as the ferry from Rimouski calls four times per week.

Delete paragraph headed “Marine Signal Station.”

Before paragraph headed “Cape Colombier” *insert*:

**Wharf.**—At Riviere Colombier (Anse Noire), about  $2\frac{1}{2}$  miles above Jeremy Island, is a Government wharf with a face 30 feet in length and a depth of 12 feet along the face at high water.

**Page 105.**—After paragraph headed “Sault au Cochon” *insert*:

Forestville is the name of a base of the Anglo-Canadian Pulp and Paper Mills, Ltd., located at the mouth of the Sault au Cochon

River. A small wharf is located at the mouth of the Sault au Cochon River with 6 feet of water at the outer end. Vessels come to this wharf at high water to load pulpwood. Two pairs of leading lights, privately maintained, lead over the drying banks to the wharf, but are lighted only during loading operations. The outer pair show *fixed white* and the inner pair *fixed red* lights. A pair of leading beacons, situated on Laval Island, lead up to a red cylindrical mooring-buoy located in 4 fathoms of water. These beacons are also privately maintained and are lighted only during loading operations.

A black light-and-bell-buoy, showing a *flashing white* light, is moored off the entrance of Laval Bay.

**Page 106.**—In paragraph headed “Portneuf River” *delete* reference to the buoys.

The Government wharf on the west side of Portneuf River, 316 feet long, has a depth of 16 feet at the outer end and  $13\frac{1}{2}$  feet along-side at 50 feet from the end.

*Delete* paragraph headed “Leading lights.—Portneuf-en-bas.”

*Delete* body of paragraph headed “Leading lights.—Hamilton Cove,” and *substitute*:

On the wharf of the Hamilton Pulp and Paper Company, on the east side of the Portneuf River, *fixed red* leading lights are shown. The front light is exhibited, at a height of 25 feet, on top of the wood conveyor on the wharf. The rear light is exhibited, at an elevation of 45 feet, from a pole with a white shed at its base situated 470 feet  $336^{\circ}$  from the front light.

*Delete* paragraph headed “Light buoy.”

In paragraph headed “Portneuf Village” *delete* reference to the sawmill.

**Page 107.**—In paragraph headed “Light” for “painted red” read “painted grey”.

*Delete* paragraph headed “Tides.”

The wharf at Sault au Mouton is 290 feet long and 30 feet wide; on each side is a berth 150 feet long dredged to  $4\frac{1}{2}$  feet. The approach channel, 100 feet wide, has been cleared of boulders and dredged to a depth of  $3\frac{3}{4}$  feet.

**Page 110.**—The Government wharf at Escoumains has been rebuilt and the red spar buoy formerly maintained to mark the ruins of the old wharf has been discontinued. A *fixed white* light is shown, at an elevation of 40 feet, from a pole on the outer end of the wharf. There is a depth of 13 feet in the berth 175 feet long alongside the wharf.

In the paragraph headed “Tides” for “ $15\frac{1}{4}$ ” read “ $14\frac{1}{2}$  to 17”.



**Page 111.**—A *flashing white* light is shown, at an elevation of 62 feet from a white square skeleton tower with a slatwork daymark on the east and west sides, located on the southeast extreme of Cap Bon Desir. The light is unwatched and is visible from all points of approach by water.

*Delete* paragraph headed "Government wharf" and *substitute*:

**Government wharves.**—A Government wharf is located on the west side of the river about 400 feet below the highway bridge; it has a pierhead 50 feet long and dries at low water. Along the face is a stranding berth 75 feet long and 20 feet wide with a depth of 15 feet over it at high water. There is another Government wharf at Pointe a John, the east entrance point of the cove; it is 260 feet long with a pierhead 40 feet long. Along the face is a depth of 14 feet at high water and a berth alongside, 140 feet long, has a depth of 11 feet at high water.

The daymark on the back beacon at Grandes Bergeronnes is square.

**Page 114.**—The buoy referred to in the third paragraph is No. 94 $\frac{1}{2}$ B.

In paragraph headed "Leading marks" for "Lark Islet lighthouse" read "Lark Islet beacon". See revision in this Supplement for page 117.

The red conical buoy, No. 94B, on Vache Shoal has been changed to a red cylindrical light-buoy showing a *flashing red* light; it is located 3 miles 89° from Pointe Noire front leading light.

**Page 116.**—The Government wharf at Anse a l'Eau, at the west end of the village of Tadoussac, is 185 feet long and extends to a depth of 5 feet.

*Delete* the first sub-paragraph under "Tides and tidal streams" and *substitute*:

At Tadoussac high water is 34m. later and low water 37m. later than at Father Point. Springs rise 15 $\frac{1}{4}$  to 18 $\frac{1}{4}$  feet; neaps 12 feet.

*Delete* "Variation 28° 30' W." just above the tidal table.

At the bottom of the page *insert*:

For "Tides and tidal streams in the Saguenay" see page 122.

**Page 117.**—The buoy referred to in the sixth paragraph is No. 93B.

In the last paragraph *delete* reference to disused lighthouse and *substitute*:

**Beacon.**—The old disused lighthouse on Lark Islet has been burned and on the same site has been erected a white triangular-shaped wooden daymark, 35 feet high, with a white wooden square slatwork on the upper portion facing the St. Lawrence River and the entrance to the Saguenay River.

**Page 118.**—The buoy referred to in the first paragraph is No. 95½B.

*Add to paragraph headed "General directions":*

At night Pointe la Boule light bearing more than 283° leads southward of Vaches Shoal; *delete* reference to the old disused light-house and *insert* "beacon" in its place.

**Page 119.**—At Baie Ste. Catherine, on the outer end of the Government wharf, a *fixed white* light is shown, at an elevation of 28 feet, from a pole with a white shed at its base.

At Baie Ste. Catherine is a Government wharf 445 feet long with a pierhead 60½ feet in length; along the face is a depth of 9 to 14 feet.

Lark Reef light-buoy No. 96B has been replaced by a red light-and-bell-buoy, showing a *flashing red* light, with horizontal slats on the superstructure. The bell is rung by the motion of the buoy on the waves.

**Page 121.**—After the word "pages" at the end of the first paragraph *insert*: "113-120."

*Delete the last paragraph and substitute:*

The Saguenay is about 107 statute miles in length and is navigable for about 78 miles or 8 miles above Chicoutimi. It has deep water up to Cap des Roches and from there to Chicoutimi, a distance of about 9 miles, a channel through the shoals had been reported dredged to a depth of 20 feet, but in 1939 sweeping operations showed there was a minimum depth of 14 feet for the full width of all ranges, which are 250 feet wide, and a minimum width on the curves of 350 feet to the same depth. The centre line of the channel, in the various reaches, is indicated by six sets of leading lights and the edges are marked by numerous light, conical and can buoys. The rise of the tides is from 17 to 19½ feet at springs and 11½ feet at neaps. During the season of 1934 a total of 67 steamers, having a draught of from 10 to 28 feet, navigated the Saguenay from the St. Lawrence to the upper Saguenay ports.

**Page 122.**—*Delete the first sub-paragraph under "Tides and tidal streams" and substitute:*

At Tadoussac high water is 34m. later and low water 37m. later than at Father Point. Springs rise 15¼ to 18¼ feet; neaps 12 feet.

The tidal stream turns to flood 2 hours after low water and to ebb 35 minutes after high water, as at Father Point.

**Page 123.**—After first paragraph *insert*:

**Light.**—On the south side of Pointe la Boule there is exhibited, from a red, steel skeleton tower with small white shed at the base, a *flashing white* light at a height of 60 feet. The light is not visible northward of a line bearing 283° 30', so that when the light is visible outside of Saguenay River, Vache Shoal will be cleared.

After paragraph headed "Government wharf" *insert*:

**Light.**—A *fixed white* light, at an elevation of 30 feet above high water, is exhibited from a lantern on top of the freight shed on the wharf at Sacre Cœur.

*Delete* body of paragraph headed "Government wharf" and *substitute*:

The Government wharf at Grosse Roche is 247 feet long with a "T" shaped pierhead 100 feet in length; along the face is a depth of 16 to 18½ feet.

*Insert* new paragraph before paragraph headed "Ile St. Barthelemi" as follows:—

**Fog-horn.**—A hand horn, maintained by the Canada Steamship lines at Ile St. Louis, answers signals made by the vessels of that company.

The lights situated one mile below Passe Pierre Islets, one mile above Grosse Roche and on the north side of Ile St. Louis are all *flashing white* lights.

At the bottom of the page *insert*:

**Leading lights.**—Leading lights have been established near the west side of the Government wharf at Petit Saguenay River. The front light, *fixed red*, is shown, at an elevation of 22 feet, from a pole with a white diamond-shaped daymark. The rear light, *fixed white*, is shown, at an elevation of 64 feet from a similar structure located 115 feet 178° from the front light. These lights will be in operation intermittently, generally when local boats are expected. Mariners must have local knowledge to enter Petit Saguenay River.

**Page 124.**—*Delete* paragraph headed "Government wharf" (fourth paragraph from the top of page) and *substitute*:

L'Anse St. Jean Government wharf is 397 feet long with a face 102½ feet in length; along the face is a depth of 20 feet.

The light at St. Jean Bay is shown at a height of 23 feet.

Before paragraph headed "Eternité Cove" *insert*:

**Light.**—On the point nearly 2 miles northwestward of the light in St. Jean Bay, a *flashing white* light is shown, at an elevation of 63 feet, from a red lantern on a white pole. The light is unwatched.

To paragraph headed "St. Basile du Tableau" *add* "There is an irregular shaped wharf with a depth of 13 feet alongside at high water."

The light directly opposite La Niche is a *flashing white* light.

**Page 125.**—In paragraph headed "Light" *delete* "an *occulting white* light every 3½ seconds thus: light ½ second; eclipse 3 seconds." and *substitute* "a *flashing white* light. The light is unwatched."

After paragraph headed "The Saguenay" *insert*:



**Wharf.**—At Anse a la Croix is a wharf 75 feet long with 12 feet at the outer end and practically the same depth on both sides the whole length of the wharf at high water.

In the paragraph headed "Government wharf," near the middle of the page, *delete* the body of the paragraph and *substitute*:

The Government wharf had originally a length of 1,620 feet but the outer 700 feet has been abandoned and is now a menace to navigation. At the outer end of the shore portion there is a depth of 15 feet at high water.

**Page 126.**—*Delete* body of paragraph headed "Government wharf" (at top of page) and *substitute*:

Bagotville main wharf is 547½ feet long with a pierhead 160 feet long; there is a depth of 32 feet along the face. Lepage wharf, lying to the west of the main wharf is 359½ feet long with a 79-foot pierhead; along the face is a depth of 13½ feet.

High water at Bagotville is 46m. and low water 48m. later than at Father Point. Springs rise 18¼ to 20½ feet; neaps rise 13 feet.

The light at St. Alphonse (Bagotville) is shown at an elevation of 39 feet.

The *fixed white* light on the outer end of the Government wharf at St. Fulgence has been discontinued.

*Delete* the paragraphs headed "Anchorage.—Buoys" and *substitute*:

**Anchorage.**—There is anchorage for deep draught vessels in from 11 to 14 fathoms, about 9 cables 145° from the head of Baie des Outardes wharf. When coming to the anchorage, after passing the high rocky point 2 miles above Les Petits Islets, keep a moderate distance off the northeastern shoal, with Cape West about 2° open of the high rocky point. There is good anchorage for vessels of light draught a little farther inshore.

**Pages 126 to 129.**—*Delete* the paragraphs headed "Buoys" and *substitute*:

**Buoys.**—The channel from St. Fulgence to Chicoutimi is marked by the following buoys:—

- No. 3-S. —Black can buoy located in 19 feet water, about 3·9 miles below front light of Poste St. Martin range.
- No. 4-S. —Red light-buoy showing a *flashing red* light located in 33 feet water, on north side of lower end of dredged channel at foot of Battures.
- No. 6-S. —Red conical buoy located in 23 feet water, about 3½ miles below Poste St. Martin front leading light.
- No. 8-S. —Red conical buoy located in 18 feet water, off Cap de Roches.

- No. 9-S. —Black can buoy in 18 feet water, above Cap des Roches.
- No. 10-S. —Red conical buoy located in 15 feet water, on north side of channel at Poste St. Martin curve.
- No. 11-S. —Black light-buoy located in 18 feet water, on south side of turn in channel off Pointe Agonie.
- No. 12-S. —Red conical buoy located in 6½ feet water, about halfway through traverse.
- No. 13-S. —Black can buoy located in 25 feet water, on south side of turn in channel of Poste St. Martin front leading light.
- No. 14-S. —Red light-buoy located in 23 feet water, on north side of turn in channel opposite No. 13-S.
- No. 15-S. —Black can buoy located in 12 feet water, on south side of channel off Riviere Valin.
- No. 17-S. —Black can buoy located in 18 feet water, on south side of turn in channel at intersection of alignments of Caribou and Simard leading lights.
- No. 17-SA. —Black can buoy located midway between Nos. 17-S and 19-S.
- No. 18-S. —Red light-buoy located in 25 feet water, on north side of turn in channel opposite 17-S.
- No. 19-S. —Black can buoy located in 20 feet water, marking south side of turn in channel off Riviere Caribou.
- No. 20-S. —Red light-buoy located in 19 feet water, on north side of turn in channel opposite No. 19-S.
- No. 21-S. —Black can buoy located in 23 feet water, on east side of channel off Riviere Lachance.
- No. 22-S. —Red light-buoy in 26 feet water, on west side of channel opposite No. 21-S.
- No. 23-S. —Black can buoy located in 11 feet water, at turn in channel off Riviere du Moulin.
- No. 24-S. —Red conical buoy located in 19 feet water, north side of turn in channel opposite No. 23-S.
- No. 25-S. —Black can buoy located in 17 feet water, about 1,700 feet eastward of the Government wharf.

**Page 127.**—In paragraph headed "The Saguenay" *delete* the last two sentences and *substitute*:

In 1937 dredging of the channel from deep water opposite Cap des Roches to Chicoutimi was completed. The channel is 250 feet wide in the tangents and 350 feet wide on the curves; it had been reported dredged to a depth of 20 feet, but sweeping operations in 1939 showed a minimum of 14 feet at low water. The rise of the tides is from 17 to 19½ feet at springs and 11½ feet at neaps. (See page 49 of this Supplement.)

The *fixed red* light on the freight shed at Chicoutimi has been discontinued.

For bearing of alignment of Poste St. Martin leading lights, 286° 45', read 287° 19'.

Delete paragraph headed "Riviere Valin leading lights" and substitute:

**Front light.**—On the north bank of the river, on the east side of the mouth of River Valin, a *fixed white* light is shown, at an elevation of 61 feet, from a steel skeleton tower with white wooden slatwork on the upper part facing the alignment and white wooden enclosed upper part with a red-roofed lantern.

**Back light.**—The back light, also *fixed white*, is shown, at an elevation of 135 feet, from a white wooden framework tower with a white square slatwork daymark on the upper portion facing the alignment, with a small white shed at its base, located 2,840 feet 314° from the front light.

**Page 128.**—In paragraph headed "Simard leading lights" for "750 feet 255° 15' " read "660 feet 257° 45' ".

In paragraph headed "Price monument leading lights" in the description of the front light, for "25 feet" read "35 feet"; after "attached" insert "and surmounted by a flagstaff with a small yard-arm".

**Page 129.**—In paragraph headed "Government wharves" delete the first eight lines and substitute:

One of the wharves has berthing space of 2,500 feet with from 27 to 29 feet of water. This wharf has one shed 400 feet by 60 feet and another 140 feet by 50 feet. A portion of the wharf, 500 feet long, is used for coal handling and is equipped with cranes; the other part of the wharf is used for general freight. There are railway tracks, a 12-inch and a 6-inch water-main and electric light on the wharf. Another wharf has berthing space of 545 feet with a depth of 17 feet. On this wharf there is a shed 100 feet by 40 feet, railway tracks, a 2-inch water-main, electric light, and cranes. This wharf is used for the handling of coal and general freight. The approach to these wharves has been dredged to a depth of 19 feet. In front of the wharves is a turning basin 3,000 feet long and 800 feet wide with from 25 to 31 feet of water. Repair facilities are limited but many repairs can be made by local firms.

Delete "The local ferry boat leaves every 30 minutes for Ste. Anne de Chicoutimi on the opposite side of the river."

At the bottom of the page insert:

**Buoys.**—The north edge of the dredged basin, abreast the old and new Government wharves, is marked by two red conical buoys.

**Page 130.**—Delete body of paragraph headed "Tides" and substitute:



High water at Chicoutimi is 3h. 33m. and low water 3h. 31m, earlier than at Quebec. Springs rise 17 to 19½ feet; neaps rise 11½ feet. The tide is similar in character to the tide at Quebec and reference is therefore made to that port instead of to Father Point.

After the paragraph headed "Ste. Anne" *insert*:

**Bridge.**—A swing bridge crosses the river about 800 feet above the Government wharf, from Chicoutimi to Ste. Anne de Chicoutimi; the width of the opening is about 75 feet between piers.

**Lights.**—A *fixed white* light is exhibited on each side of the passage through the bridge; a *fixed white* light on each end of the swing protection of the bridge; a light on each end of the swing span will show *red* when the bridge is closed and *green* when the bridge is open.

**Page 131.**—After the paragraph headed "Government wharf" *insert* new paragraphs:

Cacouna East is a small village situated about 5½ miles below Cacouna. The Government wharf is 290 feet long and has a depth of 9½ feet at the outer end at high water.

**Light.**—On the outer end of the wharf at Cacouna East a *fixed white* light is shown, at an elevation of 17 feet, from a mast with a white shed at the base.

*Delete* paragraph headed "Beacon."

**Page 132.**—In paragraph headed "Government wharf" *for* first four lines *substitute*:

Along the north shore of Rivière du Loup, at its mouth, a wharf extends east and west 1,600 feet and then, forming an "L," turns and extends 262 feet to the north. In 1938 the berth on the southerly side 375 feet long and 100 feet wide had a depth of 12 feet with 13½ feet in the outer 150 feet, and the berth on the westward side 270 feet by 75 feet had a depth of 13¾ feet. During 1938 the berth behind the wharf 175 feet by 125 feet was dredged to a depth of 12¼ feet and the turning basin extending 300 feet below the wharf and 180 feet wide to a depth of from 12¼ to 16 feet.

At the end of paragraph headed "Government wharf" *insert*:  
There is also ferry connection with Tadoussac.

In paragraph headed "Light" *for* "square white lighthouse 35 feet high" *read* "lantern."

*Delete* last two sentences of paragraph headed "Supplies" and *insert*:

The Canadian National Railways supply coal which can be taken in from trucks at the end of the pier; a small quantity is kept in stock at Rivière du Loup, at St. Flavie and at St. Charles junction, but any quantity can be brought from the Pictou collieries in 50 hours or from Springhill in 39 hours.

*Delete* the first sentence in the paragraph headed "Tides" and *substitute*:

High water at Rivière du Loup pier is 53m. and low water 58m. later than at Father Point. Springs rise 15 to 17½ feet, neaps 12 feet.

**Page 133.**—In paragraph headed "Light-and-bell-buoy" for "painted with black and white horizontal stripes" read "painted black"; for "5 fathoms" read "4 fathoms"; for "*occulting*" read "*flashing*."

**Page 134.**—On the east side of Long Pilgrim Island is a landing pier 85 feet long with a depth alongside of 3 feet at high water.

The colour of the light at Andrieville has been changed from white to red.

**Page 135.**—In paragraph headed "Light" for "*showing one flash every ten seconds*" read "*showing one flash every seven seconds*."

**Page 136.**—The downstream wharf at Kamouraska has a depth of 13 feet at the outer end and the upstream wharf 9½ feet at the outer end both at high water.

After paragraph headed "Government wharves" *insert*:

**Light.**—Near the outer end of the wharf a *fixed white* light is shown at a height of 23 feet.

**Page 138.**—In the paragraph headed "Tides and tidal streams" for "Springs rise 18½ feet, neaps rise 13½ feet" read "Springs rise 17½ to 19½ feet, neaps rise 14 feet"; *delete* "The flood stream in the offing begins 2h. 18m. after low water at Father Point, and runs 5h. 55m. The ebb stream begins 2h. 45m. after high water at Father Point, and runs 6h. 30m."

**Page 139.**—*Insert* "For tidal streams *see* page 151".

Bay of Rocks wharf is irregular in shape with a berth 40 feet long with a depth of 12 to 14 feet at high water.

**Page 140.**—In paragraph headed "Shettle Port" *delete* reference to wharf and sawmill as they are both in ruins.

In the paragraph headed "Light," at the bottom of the page, for "163° from 210° true through west and north, to 13° true" read "173° from 196° through west and north, to 9° true."

**Page 141.**—To paragraph headed "Fog-horn" *add* "This horn is privately maintained and is operated only for vessels of the Canada Steamship Lines, Limited, and Clarke Steamship Company".

There is a small wharf at Port au Persil.

In the description of the light at Cape Salmon *delete* "fixed."

The wharves of the Mount Murray Woodlands Corporation are in ruins.

At Port au Saumon is a Government wharf 544 feet long and in the berth 220 feet long is a depth of 9 feet at high water. At a distance of 100 to 400 feet from the end of the wharf and about in line with it are the remains of five piers.

The Government wharf at St. Fidele is in ruins.

**Page 142.**—In paragraph headed "Government wharf" for "25 feet" read " $27\frac{1}{2}$  to 29 feet".

In the paragraph headed "Light" for "A mast on the southwest end of the pier" read "A lantern in the centre of the crossbeam supporting the tidal slip."

**Government wharf.**—At the head of the bay is a wharf, 400 feet long, which dries at low tide.

Red conical buoy No. 100-B has been replaced by a red steel bell-buoy.

**Page 143.**—In paragraph headed "Government wharf" for "It has a depth at lowest tide of 15 feet at the outer end" substitute "The face of the wharf is 193 feet in length and has a depth of 20 feet."; add to the paragraph "The berth at the east end, 150 feet long, has a depth of  $19\frac{1}{2}$  feet; the basin on the east side inside the ell is 220 feet long, 165 feet wide at the outer end and 80 feet wide at the inner; in 1938 it was dredged to a depth of 16 feet."

In paragraph headed "Tides" for " $17\frac{1}{2}$  feet" read "17 to 19 feet"; for " $12\frac{3}{4}$  feet" read "13 feet".

**Page 144.**—In paragraph headed "Government wharf" (second paragraph from top of page) for "300 feet" read "470 feet"; for "dries 8 feet at low water" read "has a depth of 11 feet at the outer end at high water"; add to the paragraph "There is a row of electric lights on the north side".

Delete body of paragraph headed "Leading lights" and substitute:

*Fixed green* leading lights are exhibited from poles with white day-marks attached; the front light is shown, at an elevation of 32 feet, near the outer end of the new extension to the wharf; the rear light is on the shore 610 feet  $301^\circ$  from the front light and is shown at an elevation of 56 feet.

In paragraph headed "Government wharf, St. Irénée" for "66 feet" read "601 feet with an ell end  $81\frac{1}{2}$  feet long".

**Page 147.**—In paragraph headed "Light-vessel" for "No. 23" read "No. 5."

In the paragraph headed "Fog-signal" delete the second and third lines and substitute: "vessel sounds a Tyfon fog-alarm of two blasts of  $2\frac{1}{2}$  seconds duration every 90 seconds, thus: blast  $2\frac{1}{2}$  seconds; silence 3 seconds; blast  $2\frac{1}{2}$  seconds; silence 82 seconds."



**Page 148.**—*Insert* at the end of paragraph headed "Light":

On or about November 25, and until the close of navigation each year, this light will be replaced by an unwatched *occulting white acetylene* light.

In the paragraph headed "Tides and tidal streams" *delete* the first sub-paragraph and *substitute*:

High water at Brandypot is 0h. 46m. and low water 0h. 49m. later than at Father Point. Springs rise  $15\frac{1}{2}$  to  $17\frac{1}{2}$  feet, neaps 12 feet. The following table shows the height of the tide at every hour after low and high water ordinary spring tides:—

**Page 149.**—In the paragraph headed "Light-and-bell-buoy" for "conical topped" *read* "cylindrical"; for "*occulting red* light, the light being occulted about every 6 seconds." *read* "*flashing red* light."

**Page 150.**—In paragraph headed "Buoy" for "can buoy" *read* "light-buoy showing a *flashing white* light".

**Page 151.**—In paragraph headed "Morin Shoal" for "southeastward" *read* "southwestward."

In paragraph headed "Light-and-bell-buoy" for "*occulting*" *read* "*flashing*"; *delete* "30 feet high"; *add* "the buoy has a slatted day-mark."

**Pages 151 to 153.**—*Delete* the tidal information and *substitute*:

**TIDAL STREAMS, NORTH CHANNEL, RED ISLET TO THE OFFING OF CAPE EAGLE.**—Centrally between Red Islet and White Island lightship the flood and ebb streams attain a rate of 2·7 and 4·5 knots, respectively, with average tides, and in the Lark Reef-Red Islet Passage the rate is around  $3\frac{1}{2}$  knots flood or ebb for average tides.

The flood stream at first sets fairly up channel past White Island reef and along by Hare Island, three and a half to nearly five hours after low water. Then on coming with greater strength from the South Channel it flows westward through the whole breadth of the passage, between White Island Reef and Red Islet, probably as far as mid-channel with little change in direction, until about two hours after high water, causing variable eddy currents in the proximity west of the White Island Reefs and the lower end of Hare Island in this period. The flood from the South Channel, at its strength predominates and crowds the flood from the other passage over against Lark Reef in the period from four hours after low water until two hours after high water.

The stream turns to ebb at White Island lightship two to three hours after high water. Approaching from mid-channel it runs briefly

over the reefs, and later along by the reefs, curving easily into the South Channel beyond. Centrally, northwest of the lightship, the ebb first sets fairly towards the Lark Reef-Red Islet passage but later, from the fourth hour after high water until two hours after low water, there is a strong set toward Red Islet and Red Islet Bank which must not be disregarded.

The flood through Hare Pass is felt for some distance offshore to the westward in the period from four hours after low water until one hour after high water. The ebb stream at an offing of a mile is not appreciably affected by any indraught through the pass.

Along the northwesterly side of the channel as found at an offing of a mile from Cape Dogs, Cape Salmon and Cape Eagle there are no offshore nor onshore sets of the current worthy of note. Inshore, on the south sides of these capes, eddies are set up in the ebb periods running sometimes two or three miles upstream before turning out and rejoining the ebb. These eddies, causing heavy tide rips at times, seldom extend to a greater distance than half a mile from the shore. The flood and ebb currents attain the following rates with average tides at one mile off these points,—off Cape Dogs 1·4 knots and 3·0 knots; Cape Salmon 0·6 of a knot and 2·4 knots; Cape Eagle 0·8 of a knot and 2·3 knots. In the last named locality the turn to flood occurs 3 to 4 hours after low water and to ebb  $2\frac{1}{2}$  to  $3\frac{1}{2}$  hours after high water.

**NORTH CHANNEL, OFFING OF CAPE EAGLE TO COUDRES ISLAND.**—The direction of the flood stream is fairly up channel as far as Morin Shoal, above which it sets towards the St. Irenée Bight ( $265^\circ$ ) in the period from high water until two hours after when the rate is around 2 knots with average tides. The westward set is not so pronounced ( $240^\circ$ ) with large tides. Also in this locality, between the shoal and the bight, there may be little or no flood on the surface when the tidal range is small. Farther on, the flood rounds Goose Cape into the Coudres Passage parallel to the shore, and at a greater offing it flows towards the Middle Channel.

The main ebb stream, at its strength around the time of low water and with average tides, may be said to flow almost directly from the offing of Goose Cape and along by English Bank toward Hare Island Bank until within about four miles of the latter, whence it divides, a portion entering the South Channel. With large tides the ebb from Coudres Passage and Middle Channel sets more directly outward across the great bight on the northerly shore, past Morin Shoal, before turning toward Hare Island Bank and South Reef.

Approaching Morin Shoal the ebb stream has a rate of  $2\frac{1}{2}$  knots with average tides; with large tides the rate between Goose Cape and the shoal rises to 4 knots and is strongest at low water to an hour after.

Off Goose Cape the streams turn  $3\frac{1}{2}$  to  $4\frac{1}{2}$  hours after high and low water; flood and ebb rates are  $2\frac{1}{2}$  knots and  $3\frac{1}{4}$  knots, respectively, with average tides. There are violent tide rips in this locality at times.

**Tidal streams, South Channel.—Red Islet to Orignaux Point.**

—A portion of the flood coming along the Green Island shores makes straight for South Channel, and a strong set occurs to the southeastward across the reef off the southwest end of Green Island. The meeting of this current with the flood stream coming up between Green Island and the mainland sets up a heavy tide rip off the point. A portion of the flood sets west-southwestward and westward, over the northeast end of Hare Island Reef; the remainder sets fairly toward the South and Brandypot Channels, being strongest in the deep water of the latter.

A considerable body of water sets through the Hare Pass, deflecting the main body of the flood in the North Channel in a westerly direction. The strength of the spring flood diminishes, from 3 to  $3\frac{1}{2}$  knots in Brandypot Channel, to one knot off the Kamouraska Islands, but again increases in strength on approaching St. Roch Traverse.

**Ebb stream, South Channel.—Orignaux Point to Red Islet.**

—As the flats dry along the south shore, the ebb weakens along the edge of the banks, and local craft invariably use South Channel in making up against the tide. After half tide the ebb will be almost unfelt if a course be steered close along the edge of the 3-fathom contour line off the south shore. The ebb, running along the south shore, curves out from a little bay formed by Point Rivière du Loup and running along the south side of the wharf makes it difficult to berth a vessel on the falling tide until nearly low water.

In Cacouna Anchorage the ebb sets northward across the reef off the southwest end of Green Island, and northeastward through the Green Island Channel, but as the flats dry in the northeast portion of this channel and commence to uncover, the stream changes its direction between the island and the mainland, and runs to the southeastward towards the anchorage.

In the vicinity of the northeast part of Hare Island North Reef, the beginning of the ebb sets northward, and meeting the ebb from North Channel frequently sets up a heavy tide rip, but after the first hour it takes up the general direction of the main body northeastward.

**Page 154.**—To line 40 after "north of Ile aux Coudres" add "It should be noted that this course leads over the 7-fathom spot on the shoal which lies westward of Morin Shoal."

**Page 158.**—In the paragraph headed "Tides and tidal streams" before "offing" insert "near"; for "2h. 18m." read "2h. 22m."; for "2h. 45m." read "2h. 40m."

Springs rise 17 to  $19\frac{3}{4}$  feet, neaps rise 14 feet.

**Page 159.**—To paragraph headed “Riviere Ouelle” *add*:

Riviere Ouelle wharf is 130 feet long, parallel to the stream, with a depth of 13 feet along the face at high water. About 2 cables westward of the bridge is another small wharf with a depth of 2 feet at low water.

Ste. Anne de la Pocatiere Government wharf is 1,397 feet long with a depth of  $11\frac{1}{2}$  feet at the outer end at high water.

**Page 160.**—*Delete* paragraph headed “Leading lights”; they have been permanently discontinued.

In paragraph headed “Government wharves” for “ $4\frac{1}{2}$  feet” read “6 feet”; *add* to the paragraph “The main wharf has a pierhead 117 feet in length”.

The signal station at L’Islet has been discontinued.

In paragraph headed “Tides” before “begins” *insert* “in the channel”; *delete* “or 46 minutes after low water by the shore”; *delete* “or 20 minutes after high water by the shore”.

Springs rise 17 to  $19\frac{3}{4}$  feet, neaps rise 14 feet.

**Page 161.**—The Government wharf at Anse à Giles is  $306\frac{1}{2}$  feet long with a depth of 13 feet at the outer end at high water.

In the paragraph headed “Leading lights” *delete* body of the paragraph and substitute:

Leading lights, *fixed red*, lead into the harbour only; the front light is shown, at an elevation of 20 feet, from a lantern on a pole at the outer end of the south Government wharf; the rear light is shown, at an elevation of 57 feet, from a similar structure, situated 200 yards  $170^{\circ}$  from the front light. The white open framework towers, from which the leading lights were formerly shown, are still standing.

**Page 162.**—In the paragraph headed “Tides and tidal streams” for “(See page xxxvi)” *substitute* “(See page xxxvi for the turn of the tidal streams from Quebec to Brandypot Channel.)”

**Page 163.**—Middleground light-and-bell-buoy, 56B, shows a *flashing red* light.

*Delete* reference to Lower Traverse light-vessel; it has been discontinued.

*Delete* reference to St. Roch Traverse Middleground light-buoy 58B; it has been discontinued.

**Page 164.**—Light-and-bell-buoy 57B and light-buoy 61B show *flashing white* lights; light-buoys 60B and 62B show *flashing red* lights.

*Delete* reference to light-buoy 59B; it has been discontinued.

In the description of light-buoy 60B for “Upper Traverse light-house” read “site of the former Upper Traverse lighthouse”.



*Delete* paragraphs headed "Light.—Upper Traverse lighthouse" and "Fog-signal." The light and pier have been removed and there is now a depth of only 2 feet over the pier foundation.

*Insert* a new paragraph before the paragraph headed "St. Roch Shoals buoy."

**Light-buoy and can buoy.**—A black cylindrical light-buoy with "No. 57 $\frac{1}{2}$ B" in white on the topsides and showing a *flashing white* light is moored in 6 fathoms of water about 400 feet 294° from the site of the former Upper Traverse lighthouse.

For shallow draught navigation, a swift current can buoy, painted in red and black horizontal bands, and numbered 57 $\frac{3}{4}$ B, has been established in 3 $\frac{1}{2}$  fathoms of water, about 300 feet northward of the site of the former Upper Traverse lighthouse.

In paragraph headed "St. Roch Shoals buoys" for "Upper Traverse lighthouse" read "site of the former Upper Traverse lighthouse".

*Delete* reference to the black can buoy 63B; it has been discontinued.

In paragraph headed "Shoal spots" for "Upper Traverse lighthouse" read "site of the former Upper Traverse lighthouse"; for "A 5-fathom spot" read "A spot with a depth of 4 $\frac{1}{4}$  fathoms".

**Page 165.**—Light-and-bell-buoy 64B shows a *quick flashing red* light and light-buoy 65B a *flashing white* light.

*Delete* reference to buoys 63 $\frac{1}{4}$ B, 64 $\frac{1}{4}$ B, 64 $\frac{3}{4}$ B and 65 $\frac{1}{2}$ B; they have been discontinued.

**Page 166.**—The light on Algernon Rock is a *flashing white* light. Light-buoy 66B shows a *flashing red* light.

**Page 168.**—The wharf on the northwestern side of Crane Island has been destroyed and replaced by a new wharf 800 feet to the westward. This wharf is 446 feet long and 50 feet wide with a depth of 7 feet in the berth 200 feet long on the upstream side at high water. The *fixed red* light formerly maintained on the old wharf is now shown from the end of the new wharf, at a height of 27 feet, from a pole with a small white shed at the base.

At the end of paragraph headed "Semaphore" *insert*: (See pages 17 and 18 of this Supplement for code of semaphore signals.) The daily depths of water in these channels at high and low tide are posted in the Pilotage Office, Quebec.

*Delete* reference to light-buoy 67B; it has been discontinued.

**Page 169.**—In paragraph headed "Beaujeau West Narrows" for "26 feet" read "24 feet".

Light-buoy 69B shows a *fixed white* light; light-buoy 70B shows a *flashing red* light.

In the paragraph headed "Tides" for "Springs rise 19 feet, neaps 13½ feet" substitute "Springs rise 17½ to 20½ feet and neaps 13¾ feet, it is high water 1h. 10m. before and low water 1h. 43m. before high and low water, respectively, at Quebec." Delete "Tables showing the time of high and low water in Beaujeu Channel are included in the annual tide tables."

Delete the paragraph headed "Wreck-buoy" and insert:

**Buoy.**—A black can buoy, Beaujeu Channel buoy, is moored in 8 fathoms of water on the south side of the channel three-quarters of a mile 54° from Beaujeu Channel beacon light.

The light on Beaujeu beacon is *flashing white*.

Light-buoy 69½B has been replaced by black can buoy 69½B.

**Page 170.**—After paragraph headed "St. Thomas Bank" insert:

Light-buoy.—A light-buoy, 73B, marks the south side of the channel abreast St. Thomas Bank.

In paragraph headed "Directions" delete reference to Lower Traverse light-vessel, Upper Traverse light, St. Roch Traverse light-buoy 58B, and black can buoy 63B as they have been discontinued; for "*Montmagny wreck light-buoy*" read "Beaujeu Channel can buoy"; for "5½ fathoms, off English Bank" read "6 fathoms, off English Bank".

**Page 171.**—Delete reference to light-buoys 64¼B, 64¾B and 65½B and light-and-bell-buoy 67B as they have been discontinued.

In paragraph headed "Anchorages in St. Roch Traverse" for "one mile from Lower Traverse light-vessel" read "1½ miles from site of former Upper Traverse lighthouse"; for "Upper Traverse lighthouse" read "site of former Upper Traverse lighthouse".

**Page 172.**—Delete "light-buoy 79B" and substitute "can buoy 79B".

At Berthier is a wharf 566 feet long with a face 59 feet in length and extending to a depth of 17 feet.

In the paragraph headed "Tides and tidal streams" for "Springs rise 18½ feet" read "Springs rise 17½ to 20¾ feet"; delete "or 1h. 10m. after low water by the shore"; delete "1h. 5m. after high water by the shore".

**Page 174.**—In paragraph "Leading lights" delete the word "aluminium" in the description of the towers and insert "white with a red vertical stripe in the centre of the wooden slatwork on the towers facing the alignment"; for "85 feet" read "77 feet".

Light-buoy 87B shows a *flashing white* light.

**Page 175.**—Light-buoy 89B shows a *flashing white* light.

**Page 176.**—In paragraph headed “St. Thomas Channel” *delete* reference to buoys 72B, 74B, 76B, 78½B, 71B, 73½B, 75B and 77B; they have been discontinued.

*Delete* paragraph headed “Grosse Isle Quarantine light-buoy”.  
Light-buoy 78½B shows a *flashing red* light.

*Delete* reference to light-buoys 82½B and 84B as they have been discontinued.

**Page 177.**—The Quarantine Station at Grosse Isle has been closed. The only Quarantine Station for the St. Lawrence River is at Quebec.

In the paragraph headed “Tides and tidal streams” *for* “Springs rise 19½ feet” *substitute* “Springs rise 17¾ to 21 feet”; *delete* “or one hour after low water by the shore”; *delete* “or 1h. 5m. after high water by the shore”.

**Page 178.**—Light-buoy 86B shows a *flashing red* light.

**Page 179.**—The temporary light at Pointe Dauphine has been discontinued.

The Government wharf at St. Jean is 534 feet long and extends to a depth of 19½ feet. The berth on each side, 175 feet in length, has a depth of 8 feet.

**Page 180.**—In the paragraph headed “Tides and tidal streams” *for* “Springs rise 18 feet” *read* “Springs rise 16¼ to 19½ feet”; *for* “0h. 25m.” *read* “0h. 55m.”; *delete* “or 55 minutes after low water by the shore”; *delete* “or 1h. 10m. after high water by the shore.”

**Page 181.**—*Delete* body of paragraph headed “Light” and *substitute*:

*A group occulting white light, showing two flashes every 7 seconds, is shown, at a height of 33 feet, from a lantern on a pole on the freight shed on the Government wharf.*

*Delete* first two sentences of paragraph headed “Quebec Harbour” and *insert*:

**The Harbour of Quebec** comprises:

(a) The River St. Lawrence and the shores thereof to high-water mark, between a line drawn from the western abutment of the roadway bridge which crosses the mouth of the River Cap Rouge, in a direction S. 15° E. astronomically, to an intersection with high-water mark on the south shore of the River St. Lawrence, and a line drawn from the east side of the mouth of the River Montmorency, directly towards the Roman Catholic Church of the parish of Ste. Petronille on the Island of Orleans, and thence produced to an intersection with high-water mark on the south shore of the River St. Lawrence.

(b) Those parts of all tributaries falling into the River St. Lawrence, between the said lines, where the tide ebbs and flows.

Beauport Government wharf has a depth of  $9\frac{1}{2}$  feet at the outer end at *high water*.

**Light.**—On the outer end of the Government wharf a *fixed white* light is shown, at an elevation of 16 feet, from a lantern on a mast.

The three black spar buoys marking the channel to the Government wharf at Beauport have been changed to black cask buoys.

**Page 182.**—*Add* paragraphs as follows:

**Lights.**—A submerged pier lies in the middle of St. Charles River with its lower end 1,000 feet below Ste. Anne bridge. Each end of this pier is marked by a *flashing white* light elevated 11 feet above the water and shown from red skeleton steel frames. The lower part of the frames uncover at low water.

**Caution.**—These superstructures and lights are removed each fall just previous to the formation of ice and are replaced in the spring as soon as ice conditions will permit. Should vessels be navigating in this vicinity when the lights are not in place special care should be taken not to collide with the pier.

Light-buoys 138B and 140B show *flashing red* lights.

In paragraph headed "Leading lights" for "red" read "green".

In paragraph headed "Directions" *delete* reference to buoys 71B, 72B, 74B, 76B,  $78\frac{1}{4}$ B,  $73\frac{1}{2}$ B, 75B, 77B,  $78\frac{1}{4}$ B,  $82\frac{1}{2}$ B and 84B; they have been discontinued.

In the third last line on the page after "buoy" *insert*:

Care being taken to avoid a long narrow shoal, with a depth of  $5\frac{1}{4}$  fathoms over it, which lies about three-quarters of a mile northward of Bellechasse Island.

**Page 183.**—*Delete* paragraph headed "Anchorage" and *substitute*:

**ANCHORAGE.—North Limit.**—A *fixed blue* light is located on King's wharf in Lat.  $46^{\circ} 48' 34''$  N., Long.  $71^{\circ} 12' 12''$  W. This light is shown from a pressed lens lantern on a pole, and elevated 60 feet above high water. A white diamond-shaped daymark with a red anchor painted on it, and a white vertical panel with "N. Limit" in red letters, is attached to the pole.

The North Limit of the anchorage is a line bearing  $282^{\circ}$  to the blue light, from seaward.

**South Limit.**—The South Limit of the anchorage is a line bearing  $302^{\circ}$  to red light-buoy No. 10 Q. Lat.  $46^{\circ} 47' 54''$  N., Long.  $71^{\circ} 12' 39''$  W, from seaward.

In the paragraph headed "Tides" *delete* the first sub-paragraph and *substitute*:



It is high water, full and change, at Quebec 6h. 32m. and low water 14h. 07m. The mean intervals are 6h. 16m. and 13h. 40m. springs rise  $16\frac{1}{4}$  to  $19\frac{1}{2}$  feet, and neaps  $13\frac{1}{4}$  feet; neap range, 11 feet.

*Delete* body of paragraph headed "Tide tables" and *substitute*:

*See* "Tide Tables for the Atlantic Coast of Canada" for complete tables and tidal differences for all points in the river and estuary.

**Page 184.**—In the heading of the table under "Neap tide" for "(Average range  $10\frac{1}{2}$  feet)" *read* "(Average range 11 feet)."

In the second sub-paragraph under "Tide levels" for "mean sea level" *read* "mean river level"; for "thirteen years" *read* "twenty-six years"; for "8·598" *read* "8·55"; *add* to the paragraph "and 2·14 feet above mean sea-level".

To the third sub-paragraph *add* "Similarly for the Champlain dock add 22·7 feet".

In the paragraph headed "Tidal streams" for "The flood stream begins at 1h. 10m. after low water by the shore, and runs 5h. 0m." *read* "The flood stream begins at 1h. 07m. after low water by the shore and runs 4h. 55m"; *add* "Information on the currents at the Wolfe Cove terminals is given on page 73 of this Supplement".

At bottom of page *insert*:

*For continuation of Quebec Harbour, see page 196.*

**Page 185.**—*Add* to paragraph headed "Anchorage":

The tidal streams are irregular here and occasionally strong; thus as found when at anchor too far out in  $8\frac{1}{2}$  fathoms the first of the flood came around Goose Cape with a great rippling and set slantingly onshore. Later the rate decreased to  $2\frac{1}{2}$  knots which rate it retained for the greater part of the flood period, setting fairly along shore.

*Delete* paragraph headed "Tidal streams".

**Page 186.**—In the paragraph headed "Light," immediately following the paragraph "Government wharf" change the characteristic of the light from "*fixed*" to "*flashing*".

**Page 187.**—To paragraph headed "Bay St. Paul" *add*:

**Wharf.**—At Bay St. Paul is a wharf 616 feet long with 8 feet of water at the outer end at high water and dry at low water. There is a stranding berth 309 feet long by 32 feet wide on the Riviere du Gouffre side.

*Delete* body of paragraph headed "Leading lights" and *substitute*:

*Fixed white* leading lights are shown at Baie St. Paul. The front light, situated on the Government wharf, is shown at an elevation of 22 feet, from a white wooden framework structure with a

white diamond-shaped daymark attached. The back light, located 300 feet 296° 30' from the front light, is shown from a mast at an elevation of 32 feet. These lights are unwatched; in line they lead to the Government wharf at higher stages of the tide.

After paragraph headed "The northern shore" *insert*:

At La Petite Riviere St. Francois there is a wharf 608 feet long with 13½ feet of water at the outer end at high water but dry at low water.

*Delete* the paragraph headed "Buoy" and *substitute*:

**Light-and-bell-buoy.**—A red cylindrical light-and-bell-buoy, 104B, showing a *flashing red* light, is moored in 4 fathoms of water close southeastward of Claude Shoal, the highest accumulation of boulders off Cap de la Baie, and with that cape bearing 330° true, distant 6½ cables. The bell is rung by the motion of the buoy on the waves.

**Page 188.**—*Delete* body of paragraph headed "Light-buoy" and *substitute*:

A red light-buoy, 106B, showing a *flashing red* light is moored in 6 fathoms of water about half a mile off Cap Maillard.

In paragraph headed "Leading lights.—St. Francis River" *delete* from "The front light" to end of paragraph and *substitute*:

The front light is shown, at an elevation of 36 feet, from a pole, with diamond-shaped daymark, on the outer end of the Government wharf. The rear light, shown at an elevation of 134 feet, is located 1,940 feet 284° from the front light. The lights are *fixed red* and in line lead up to the wharf which is dry at low water.

In paragraph headed "Sault au Cochon" *delete* reference to the church and wharf.

*Delete* paragraph headed "Buoy" and *substitute*:

**Light-buoy.**—A red cylindrical light-buoy, 108B, showing a *flashing red* light, is moored near the southeast side of Longue Pointe Shoal.

*Delete* last paragraph headed "Leading lights" and *insert*:

**Leading lights.—Front light.**—From a white hexagonal wooden building with sloping sides on a steel frame foundation, surmounted by a hexagonal iron lantern with a red roof, 17 feet high, on the edge of a cliff at **Cap Brûlé**, is exhibited, at a height of 134 feet above high water a *fixed white* light. **Back light.**—Situated 17° 462 feet from the front is a similar structure 58 feet high, which exhibits at a height of 161 feet above high water a fixed white light. These lights in line lead through the northern end of the narrows between the western end of Brûlé Bank and the northeastern point of Traverse Spit.

**Page 189.**—After the paragraph headed “Cape Tourmente” *insert* new paragraph:

**Tidal streams.—Cape Brûlé to Cap la Baie.**—The sailing course in this section is free from cross currents except near the turn of the stream when they are weak. The turn from flood to ebb is approximately the same over the whole of this reach at about 0h. 25m. before the time of high water at Quebec. The time of low water slack along the north shore is roughly, for the whole reach, an hour before the time of low water at Quebec, but it is perhaps an hour earlier than this by the bank on the south side opposite Cap Maillard because of the flood coming up from the Middle Traverse. Flood rates vary from  $3\frac{1}{2}$  knots off Cap de la Baie to  $2\frac{1}{2}$  knots at Brûlé Bank and ebb rates from  $4\frac{1}{2}$  to  $2\frac{1}{2}$  knots, similarly, with average tides.

After paragraph headed “Prairie Bay.—Anchorage” *insert*:

**TIDAL STREAMS.—PRAIRIE BAY ANCHORAGE.**—High water, opposite at Cap Corbeau, is 2h. 12m. and low water 2h. 8m. later than at Father Point. In the bay the flood stream duration is about 20 minutes longer than for the ebb, due to eddy effects. The flood stream is also stronger than the ebb at the anchorage in 6 fathoms, with a rate of about 4 knots for large tides. The ebb stream is turned off to a great extent by Prairie Shoal, its rate for the first two hours being about 2 knots but at a little more offing it is a knot stronger; it may then slacken in the anchorage for about five minutes so completely that a vessel will swing to the wind. After this the stream becomes stronger and regular, its mid-ebb rate being about  $3\frac{1}{4}$  knots with average tides.

*Delete* paragraph headed “Government wharf” and *substitute*:

**Government wharves.**—At Cap à l'Aigle is a Government wharf with a pierhead 113 feet long. Off the southwest end of the pierhead a small basin, 42 feet wide, was dredged in 1939 to a depth of 16 to 26 feet; there is another basin, behind the pierhead dredged to 10 feet. Near the southwest corner of the island is a wharf 272 feet long with a depth of  $14\frac{1}{2}$  feet at the outer end at *high water*; it is not connected to the shore.

**Page 190.**—In paragraph headed “Light” for “20 feet” read “30 feet”; for “26 feet” read “36 feet.”

*Delete* paragraphs headed “Light-vessel” and “Fog-signal” and *insert* the following paragraphs:

**Light.**—On the northwest edge of Prairie Shoal, 258° distant, two-thirds of a mile from Prairie Point a *flashing white* electric light, giving *one flash every 5 seconds*, is exhibited, at a height of 44 feet, from a red, octagonal, iron lantern on the top of a white, octagonal, concrete dwelling surmounting a white, octagonal concrete pier with sloping sides.

**Fog-signal.**—Two diaphones in the basement of the pier, with horns pointing upstream and downstream have the following characteristics:

Downstream horn, blast *3 seconds*; silent interval *12 seconds*;

Upstream horn, blast *3 seconds*; silent interval *12 seconds*;

Downstream horn, blast *3 seconds*; silent interval *12 seconds*, etc.

**Submarine cable.**—A submarine cable crosses North Channel from Pointe des Roches to Cap St. Joseph. Mariners are warned not to anchor in the vicinity of this cable.

**Light-and-bell-buoy.**—A black light-and-bell-buoy, No. 103B, showing a *flashing white* light is moored about 342°, distant 3 cables from the lighthouse.

In the paragraph headed "Tides and tidal streams" *delete* the first sentence and *substitute*:

High water is 2h. 10m. and low water 2h. 05m. later than at Father Point. Springs rise  $17\frac{1}{2}$  to 20 feet; neaps 14 feet.

**Page 191.**—After the paragraph headed "Brûlé Bank" *insert* new paragraph:

**Tidal streams.—Cap Brûlé range.**—The direction of the flood and ebb streams because they conform to the river bed are considerably across the course leading to the dredged channel connecting with the North Traverse. The main flood direction is 210° to 220° and the ebb direction 35° to 45°, the rates being  $2\frac{1}{4}$  knots, approximately, for average tides.

High water slack occurs 22m. and low water slack 42m. before the time of high water and low water at Quebec.

In paragraph headed "Light-buoy" for "*occulting*" read "*flashing*"; *add* to paragraph:

A black cylindrical light-buoy, 109 $\frac{1}{2}$ B, showing a *flashing white* light, is moored on the northeasterly extreme of a sandbank and is half a mile 290° from Brûlé Bank upstream leading light.

*Delete* body of paragraph headed "North Traverse" and *substitute*:

**The narrows** east of Orleans Island have been dredged to connect the deep water of the North Channel to that of the main channel between Madame Reef and St. Jean, with a minimum depth of 32 $\frac{1}{2}$  feet.

*Delete* paragraph headed "Leading lights.—Brûlé Bank" and *insert*:



**Brûlé Bank upstream leading lights.**—The **front light**, situated on Brûlé Bank, is shown, at a height of 32 feet, from a lantern surmounting a white, square, concrete dwelling standing on an octagonal, concrete pier with sloping sides.

The **back light**, situated 3,275 feet,  $33^\circ$  from the front light, is shown, at a height of 96 feet, from a square, wooden lantern on a steel, skeleton tower surmounting a white, square, concrete dwelling standing on an octagonal, concrete pier with sloping sides. White, wooden slatwork is on the upper portion of the steel tower facing the alignment.

The lights, which are *fixed white*, are visible in their alignment which coincides with the alignment of the St. Michel leading lights and leads through North Traverse. (See page 172.)

**Brûlé Bank downstream leading lights.**—Additional leading lights are maintained on the Brûlé Bank light piers to range downstream and lead through the North Channel. **Front light.**—At a height of 32 feet above high water a *fixed white* light is shown  $10\frac{1}{2}$  feet north of the centre of the back light structure of the upstream leading lights. **Back light.**—At a height of 59 feet above high water a *fixed white* light is shown from a white mast located  $10\frac{1}{2}$  feet north of the centre of the front light structure of the upstream leading lights. The lights in line bear  $213^\circ$ .

**Page 192.**—In paragraph headed "Buoys" change "*occulting*" to "*flashing*"; for "red can" read "red conical," lightbuoy 112B has been replaced by a light-and-bell-buoy; after "114B" add "another red light-buoy, 114 $\frac{1}{4}$ B."

Delete paragraphs headed "Tides" and "Tidal streams" and substitute:

**Tides and tidal streams.**—High water in the North Traverse, at St. Francois Orleans Island, is 0h. 58m. earlier and low water 1h. 10m. earlier than at Quebec. Springs rise  $17\frac{1}{4}$  to  $20\frac{1}{2}$  feet, neaps 15 feet.

In the short section opposite the gap between the lower end of Orleans Island and the Traverse Spit, the currents in both flood and ebb periods are somewhat transverse to the dredged channel; the mid-ebb direction  $40^\circ$  to  $50^\circ$ , rate 2 knots, and the midflood direction  $220^\circ$  to  $230^\circ$ , rate  $1\frac{3}{4}$  knots are for average tides in the summer season. In the St. Francois Channel high water slack is about 20 minutes later and low water slack 10 minutes later than high and low water at Quebec.

At the upper entrance the tidal streams curving into or out of the North Traverse do so close along the Orleans side; southward of a line from half a mile offshore at St. Jean to the south side of Madame Reef, the currents are directly up and down the main channel with rates 2 and  $2\frac{1}{2}$  knots respectively for average tides. The stream here turns to flood 0h. 50m. and to ebb 0h. 40m. after low and high water at Quebec.

In paragraph headed "North Channel.—Directions" in the sixth line after "when" *insert* "steer 216° to abreast light-buoy 108B, passing in mid-channel between that buoy and 109B, and thence steer 215° to the intersection of the range of Cap Brûlé leading lights."; *delete* "Keep the first notch. . ." to ". . . shore becomes bold." and *substitute* "Should the Cap aux Corbeaux leading lights be not visible, pilots are accustomed to use as a range the first notch in the mountains north of Mont Eboulements in line with Cap Branche to abreast light-buoy 108B."; *for* "light-buoy 112B" *read* "light-and-bell-buoy 112B".

**Page 193.**—*Change* body of paragraph headed "Buoys," middle of page, to *read*:

The northern side of the bank which lies to the south of the channel abreast Rivière Ste. Anne is marked at its eastern end by black can buoy No. 123B, moored just south of the alignment of Ste. Anne de Beaupré lights. The north side of a 2 $\frac{3}{4}$ -fathom spot, lying off the northwest end of the bank is also marked by a black can buoy No. 125B, moored just south of the intersection of the alignment of Ste. Anne de Beaupré leading lights and the alignment of Chateau Richer Church with the northern fall of the hills over l'Ange Gardien.

To paragraph headed "Wharf" *add* "This wharf is 463 feet long, irregular in shape, and has a depth of 16 feet at the outer end at *high water*".

**Page 194.**—At Montmorency Village is a wharf 195 feet long with a depth of 10 feet at the outer end at high water but dry at low water.

At Boischatel, about a mile east of Montmorency Falls, is a Government wharf 700 feet long with a depth of 14 $\frac{1}{2}$  feet at the outer end at high water but dry at low water.

Before the paragraph headed "Orleans Island, north side" *insert*:

**Bridge.**—A highway suspension bridge connecting Orleans Island to the north shore crosses Orleans Channel from the Village of St. Gregoire, on the west side of the mouth of the Montmorency River. The distance between the two main piers is 1,059 feet with a fairway 600 feet wide with a clearance of 106 feet at high water.

**Lights.**—Four *white* electric lights have been placed on each side of the passage under the span of the bridge. The lights are 106 feet above the water and 600 feet apart.

**Page 197.**—*Insert* the following paragraph under paragraph headed "Harbour Regulations":

**Prohibited anchorage.**—(See page 183.)

The general depth of Princess Louise Tidal Basin is 25 feet instead of 26 feet.

Delete the body of the paragraph headed "Depths at low water" and *substitute*:

*Princess Louise Docks:*

Inner basin, with closed gates, North wall 24 feet, West wall 20 feet, Cross wall 23 feet.

Outer basin, Cross wall 24 feet, North wall 23 feet, Breakwater 19 feet, South wall 26 feet.

*St. Lawrence River:*

Fish house berth 15 feet, Coal berth 15 feet, Customs pond 10 feet, Pointe a Carcy 37 feet, Breakwater over 40 feet, Pier No. 1 over 40 feet.

*St. Charles River:*

Pier No. 1, 33 feet, North wall 35 feet, Oil berth 23 feet.

*Wolfe's Cove Terminal:*

C.P. Steamships *Empress* berth 35 feet.

*Levis:*

Imperial Oil Co., Ltd., 23 feet, Canadian National Railways 21 to 23 feet, except at the upper part where there is from 7 to 15 feet, Government wharf 30 feet.

After paragraph headed "Depths at low water" *insert*:

**Measured mile beacons.**—Near Cap Blanc Church, on the Quebec side of the river, are two white diamond-shaped slatwork targets marking the eastern end of a measured nautical mile. The western pair of similar targets are at Anse a Foulon. The course to be followed at right angles to the beacons is 225°. A convenient range for this course is the light on the south end of Sillery wharf in line with the south end of the south landward cantilever of Quebec bridge bearing 225°.

**Page 198.**—Delete body of paragraph headed "Grain elevator" and *insert*:

There is a fireproof concrete grain elevator with a storage capacity of 4,000,000 bushels; three marine towers for discharging lake boats, and 2,600 lineal feet of shipping conveyors with a loading capacity of 90,000 bushels per hour. It has also a grain dryer, separators and bagging facilities.

Delete body of paragraph headed "Grain cargoes" and *insert*:

Shipping capacity, 90,000 bushels per hour. Unloading lake barges 40,000 bushels per hour. Unloading cars, 120 cars per day. Drying grain, 3,000 bushels per hour. Cleaning grain, 40,000 bushels per day.

Delete body of table headed "Landing sheds" and replace by the following:

No.	Location	Size	Area
		feet	sq. feet
14	Crosswall.....	305 by 40	14,000
18	Double-decked passenger landing stage.....	440 by 36	31,680
19	Pte. a Carcy.....	450½ by 80½	36,103
20	Montcalm.....	800 by 111	79,600
25	Pier No. 1.....	557½ by 80	43,000
26	Pier No. 1.....	737½ by 80	59,040
27	Pier No. 1.....	955 by 80	77,280
28	Bulkhead.....	776 by 75	73,320
29	Bulkhead.....	1,000 by 102	102,000
Combined floor space of all sheds.....		.....	516,023

Landing shed 27 is fully equipped for resting, feeding and loading cattle, having accommodation for 2,000 head.

**Cold storage plant.**—The commissioners have a modern cold storage warehouse with fish house and power house. The main warehouse has a capacity of 500,000 cubic feet, and the fish house, which is thoroughly equipped for the freezing of fish, has a storage capacity of 1,000,000 pounds.

**Lights.**—A *blue* light is shown on the south end of shed No. 18 at the entrance to Princess Louise Basin; two *blue* lights are shown on the north end of pier No. 1 at the entrance to the St. Charles River. These lights are maintained by the Quebec Harbour Commission.

**New terminal facilities at Wolfe Cove.**—The Quebec Harbour Commissioners are developing the river frontage, providing additional terminal facilities.

The first section consists of a quay wall, 3,776 feet long, parallel to the river, with an angle extension at the west end of 576 feet. It provides deepwater berths (35 feet below low water datum) for four of the largest type of vessels, with two additional deepwater berths 600 feet in length, and one berth for vessels carrying fuel oil.

An 80,000 barrel oil tank, with all necessary pipelines, is provided, for bunkering ships at all berths, which are also served by water mains and connections.

A large two-story shed, 1,380 feet by 100 feet, is constructed with elevators, escalators, and all modern appliances for the handling of freight, mail and passengers.

Direct rail connections with the Canadian Pacific and Canadian National Railways permit all trains to arrive at or depart from ship's side.

**Light and other buoys.**—The following buoys have been established to mark the 40-foot dredged channel leading into Wolfe Cove.

Red cylindrical light-buoy, No. 10Q, showing a *flashing red* light, on the northern extreme of entrance.



Red cylindrical light-buoy, No. 12Q, showing a *flashing red* light on the southern extreme of entrance.

A red steel spar buoy, 10½Q, marks the northern side of the channel.

**Prohibited anchorage.**—It is strictly prohibited to anchor vessels opposite Wolfe Cove terminal. The prohibited area is from light-buoy 10Q to light-buoy 12Q.

**Page 199.**—*Delete* third paragraph and *insert*:

**Quebec and Levis Ferry Company gridiron**, 200 feet in length, is situated close to the floating dock belonging to the same company.

The Radiotelegraph Station has been moved from Quebec to Lauzon.

**Page 200.**—*Delete* paragraph commencing "Steamers" and *substitute*: A passenger and freight ferry, carrying automobiles, runs several times daily from Quebec to Ste. Petronille, Orleans Island.

**Page 201.**—To the paragraph headed "Tides and tidal streams" *add* **Wolfe Cove.**—After a slack period lasting about 35 minutes at the cove, during which the currents do not ordinarily exceed a quarter of a knot either way, the first of the flood tide comes up the northern side of the main channel reaching the lower end of the berthing space and turning the stream there 1h. 07m. after the time of low water; the turn at the upper light-buoy is about 10 minutes later. The direction of the early flood curves outwards from the lower light-buoy, but 15 or 20 minutes after the turn the direction bends shoreward and the current runs along about parallel to the terminal wharf, curving outward again opposite the upper end of the wharf.

The flood current runs an average time of 4h. 45m. and comes to full strength about three hours after the time of low water as given in the tide tables for Quebec. For average tides the flood velocity along the edge of the channel approximates 2½ knots which holds roughly until an hour of high water slack.

Towards the end of the flood in midstream, an eddy forms in the bight above the terminals, the current thus turning downwards inshore, beginning as a narrow stream one hour before high water which gradually widens outward from shore until it extends, in the region of the terminals, almost to the upper light-buoy approximately an hour after high water, with the beginning of the slack in the channel. The duration of the high water slack in the channel is also about 35 minutes.

Thus, from an hour before until about an hour after high water, there are reverse currents within the berthing area, the last of the flood tide along the channel turning inward by the upper end of the pier to join the downward current along shore. At the lower extremity of the pier the downward eddy current is confined more closely to the shore until the turn to ebb nearby in the channel.

The tide turns to ebb at the upper light-buoy by the edge of the channel an hour or perhaps more after high water, having turned downwards close along shore two hours earlier, as already described. Between this buoy and the pier the ebb current curves slightly inward an hour after the slack so that its direction, as found, midway in the distance, is towards the terminal sheds and remains so until about half an hour of low water slack. At the lower end of the dock the ebb current turns outward again.

The ebb runs an average time of 7h. 45m. and reaches full strength by the side of the channel 3 to 3½ hours after high water as given in the tide tables. The rate is about the same as for the flood. With a tide falling 17½ feet, the measured velocity was nearly 3 knots.

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#### NOTE

For changes in aids to navigation, revision of sailing directions and for any new or additional data or information that would affect the descriptive matter contained and published in the "St. Lawrence Pilot below Quebec," since the issue of this Supplement, consult the "Notices to Mariners" issued periodically by the Department of Transport.

